MAY 8, 1961

PAPER TRADE JOURNAL

How to Most Efficiently Handle Pulp and Papermaking Chemicals

Optically Bleaching Market Pulps To Near 96-Point Brightnesses

Routing Troubles That May Occur With Magazine Grinder Governors

Industry and Students Exchange Views at U. of Me. Open House

Contents of the Week, pages 4-5

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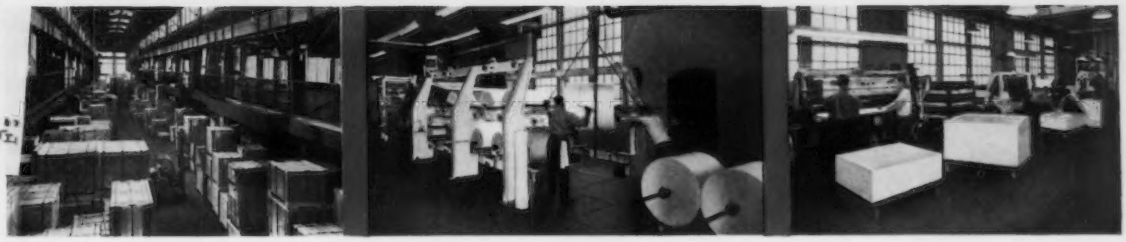

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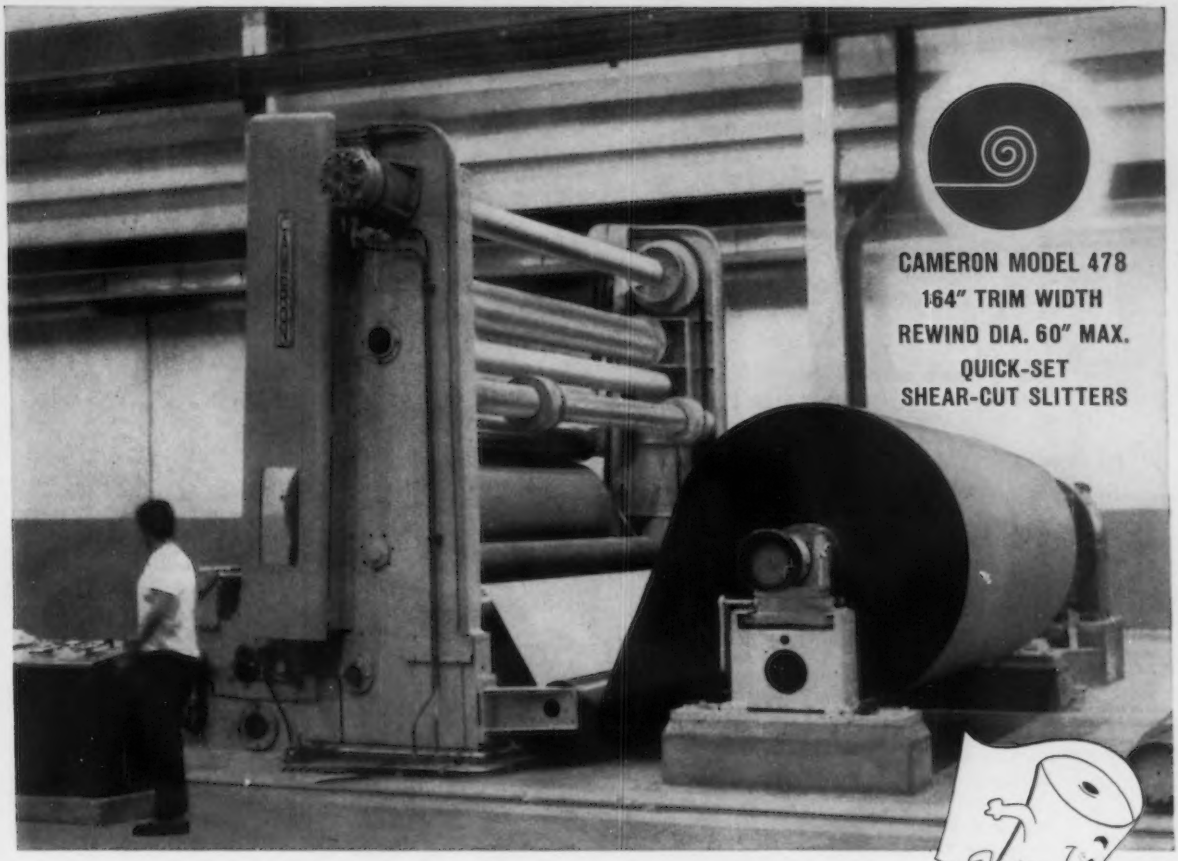

Georgia-Pacific *delivers* ---------- *the superb running qualities of* **The New Roll**

One good reason why the Georgia-Pacific Paper Company has experienced such rapid growth as a kraft producer for West Coast and export markets is found in the superb running quality of the rolls shipped from the No. 2 machine at the company's Toledo, Oregon mill. Kraft papers and board up to 33 lb. basis weight are delivered in rolls made with extreme care to assure maximum trouble-free yield in high speed printing and converting operations. Also integrated roll control keeps the web *alive* for better end results, not stretched out *dead* in the rolls.

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Cameron specialists offer a unique test-run service to help you achieve the fine running qualities of The New Roll. In the Cameron Research & Development Service in Dover, N. J., test-runs are being made on all types of papers and board on integrated pilot systems which simulate actual job conditions. Here you can see, before you buy, either an improvement element, such as a new unwind brake and tension system, or a complete, integrated roll production system, engineered to give you The New Roll. Let's plan an early date for *your* test-runs. Write for details.

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FEATURED THIS WEEK

What PCF Found by Optically Bleaching Market Soda and Sulphite Pulps

Pulps with 96-98 points brightness have been reported after bleaching chemically to at least 90-91 brightness. Furthermore, pre-dyeing the fibers eliminates some of the variables that fluorescent brighteners present in paper mill applications—Herbert Freedman **26**

Factors in Handling Common Pulp and Paper Mill Chemicals

Want to know the handling characteristics of a certain chemical? The factors in selecting a conveyor? Labor requirements?—Here are detailed data compiled by a well known authority—D. S. Adams **28**

99 New Ways to Break Down a Sheet of Paper

Classic tales by a veteran papermaker—positively never found in a textbook. **33**

Industry Leaders' Look to Potential Technical Men at University of Maine

Industry's leaders converge on Orono, Maine, Campus to view current student research projects. Select high school students also join in to hear about career opportunities in the industry. **34**

What You Should Know About the Care and Use of Magazine Grinders—II

• *Installing Governors* • *Troubles that may Occur* • *Control Stands* • *Changing Pulpstones.* **36**

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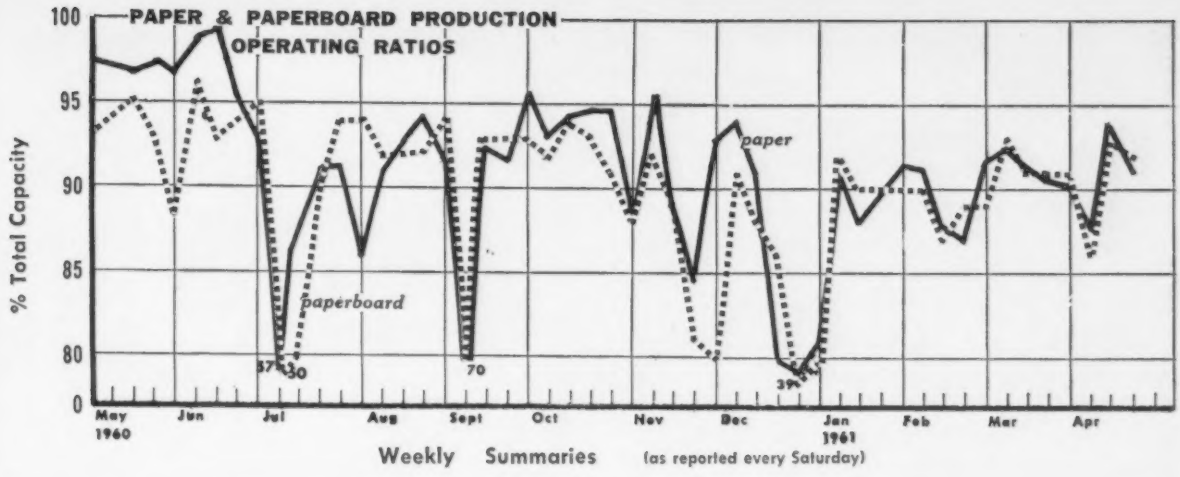

NEWS OF THE WEEK

Patrician Paper Aims for September Start up . . . Rothesay to Start Construction of Newsprint Mill in N. B. . . . Canadian I. P. Buys Dominion Cellulose . . . Great Northern Planning R. & E. Center . . . Boston Firm May Purchase Whiting Holyoke Mills .....

Stora Kopparberg Names Asst. to President . . . Foley Resigns from MacMillan, B. & P. . . . Columbia Box Board Ups Two . . . National Vulcanized Fibre Names Executives . . . I-P Promotes Three In Southern Kraft Division .....

St. Joe Paper to Build Multi-Million Dollar Plant . . . New Grand Rapids Plant Starts Production . . . B. C. Paper Converters Names President . . . Gormley Joins U. S. E. . . . American Envelope Becomes Division of Kimberly Clark .....

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REMEMBER THESE DATES

Technical Ass'n of the Pulp and Paper Industry, 12th Annual Coating Conference, Statler-Hilton, Buffalo, N. Y.	MAY 8-10
Paper Industry Management Ass'n National Meeting, Robert Meyer Hotel, Jacksonville, Fla.	JUNE 7-9
Technical Section Canadian Pulp and Paper Ass'n Summer Conference, Saranac Inn, Saranac, N. Y.	JUNE 7-9

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- *Operating Economy with the Morden . . . . .*

BIG 8 REFINER

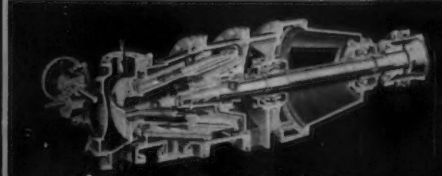

FIGURE 5. Big 8 Stock-Maker Refiner, illustrating reverse flow, cushioning principle. Stock enters hollow rotor at A, is forced between bars on rotor B and shell C where the opposing internal flow pressures hold a full cushion of stock, permitting heavy bar loading for maximum brushing, combing and fraying of the fibers. Cutting action is at a minimum.

MORDEN BIG 8 STOCK-MAKER
300-400 CONNECTED H. P.

FIGURE 1. Untreated pulp. Freeness, 635 Canadian Standard. Tear factor, 85.

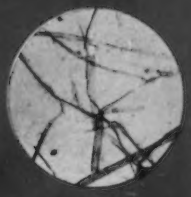

FIGURE 2. Medium treatment by Morden Stock Maker. Freeness, 300 Canadian Standard. Tear factor, 85.

FIGURE 3. Medium jordaning treatment. Freeness, 275 Canadian Standard. Tear factor, 55.

FIGURE 4. Heavy treatment by the Stock-Maker. Freeness, 75 Canadian Standard. Tear factor, 60.

The perfect refiner is yet to be built. But, the development which comes closest to refining perfection, customers tell us, is the MORDEN BIG 8 REFINER. Here is the BIG MORDEN 300-400 H. P. engine which provides the maximum in stock treatment. . . . Good Mullen • Improved tear retention • Excellent fold and tensile development • Printability specs met with ease through precision stock treatment.

THE SECRET IS MORDEN'S DEVELOPMENT OF THE FIBERS. The incompatibles, Good Mullen and Good Tear Retention at Minimum Freeness Reduction, are made compatible in the MORDEN BIG 8 REFINER through its brushing, combing action, which develops and frays the fibers with minimum cutting. The photomicrographs tell the story. FIGURE 1 shows unbleached sulphite prior to refining. FIGURE 2, the same fibers after medium treatment in the Morden Stock-Maker Refiner. Note the fraying and brushing imparted to each fiber. FIGURE 3, the same fibers treated to about the same level of freeness with a jordan. Notice how the fibers are cut, not frayed. FIGURE 4, the same fibers as Figure 2, except that the MORDEN refining treatment has been carried to much lower freeness. Even so, the tear in Figure 4, with twice as much MORDEN treatment, is better than figure 3 with medium jordaning.

HOW FIBER DEVELOPMENT IS ACHIEVED AND CUTTING MINIMIZED. Morden's unique reverse-flow principle, with opposing internal flow pressures, **provides a constant cushion of stock between the shell and rotor bars,** permitting maximum brushing and fraying, with minimum cutting of the fiber. SEE FIGURE 5. Result: GOOD MULLEN and EXCELLENT TEAR RETENTION at MINIMUM FREENESS DROP, INCREASED MACHINE SPEED & DRYER CAPACITY FOR INCREASED DAILY PRODUCTION.

POWER SAVINGS. Over and over again customers tell us that Morden Stock-Makers provide better stock treatment, yet consume less power . . . **in some cases savings up to 50% are reported.** A 400 H. P. MORDEN BIG 8 uses only 70 to 90 of its connected H. P. for idling load, leaving 310 to 330 H. P. for efficient stock treatment. Compare this efficiency with any other conical refiner, where usually up to 50% of applied energy is consumed for idling load.

LOWER INVESTMENT COST. When all other costs are going up, Morden has improved the design, retained the efficiency but has reduced the cost approximately 20%. Built-in motor is a cost and space-saving option.

LOWER MAINTENANCE COST. Chrome steel fillings are recommended for furnishes in a pH range of 6 or above. Bronze fillings in furnishes with pH 6 and below. Fillings usually give 3 to 5 or more years of trouble-free service. Precision-machined cast fillings require no grinding-in. Down time cut to a minimum. Constant load maintained easily. Superior fillings and fine machine design result in minimum maintenance.

Mordenize . . . . .

YOUR STOCK SYSTEM

. . . send for full information on the MORDEN BIG 8 REFINER.

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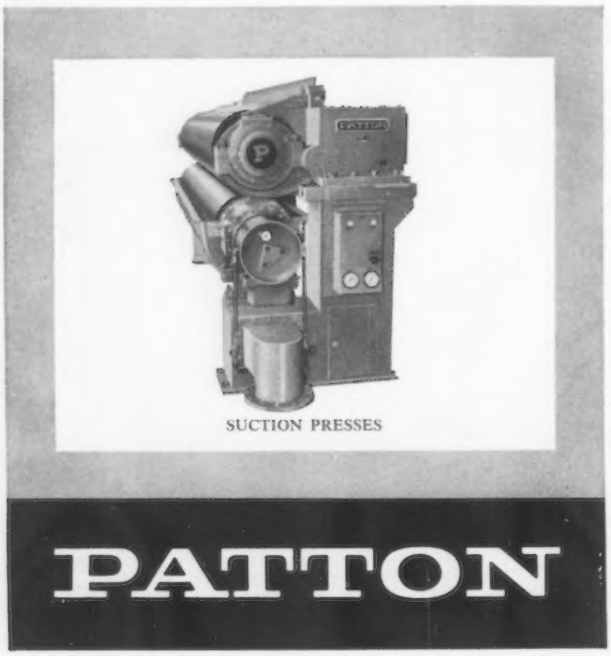

SUCTION PRESSES

PATTON

the press of competition

When you seek to maintain your share of the market against increasing competition, the press section of your paper machine is certainly one place you start looking. The big question is exactly *how* to increase the speed of your machine, improve quality, or change grades to meet the market. A Patton engineering survey of your press section will list all possibilities and costs of modernization. You get the kind of hard information you need to make budget decisions.

The same high-quality engineering that has made the Patton Horizontal Size Press a part of the language is yours in other kinds of presses by Patton. Successful installations include main presses, suction presses, smoothing presses, breaker presses and complete press sections. Patton is well-qualified to help on your next job, and probably can save you some money.

The Patton Manufacturing Company Inc., Springfield, Ohio, invites your inquiry for further information.

Trends

First Quarter Output off 4%

U. S. output of paper and paperboard in the first quarter of 1961 was 4% down from the same period last year. Greatest decline was shown for production of construction paper and board, off 14% from the year earlier figure, while remaining grades of paper and board as a whole were off 3%. Paper mill operating rate for the first three months was 89.7% (1960 same period –97.4%) and paperboard mill rate 89.3% (1960 same period –93.7%).

Predict New Record Production for 1961

Paper production this year is expected to exceed the record 34.5 millions tons of 1960 by 2% to 3%, aided by improving demand during the balance of the year, states Standard & Poor's Paper Industry Survey. The report points out that prevailing imbalance in the supply-demand relationship will delay significant recovery in prices.

Folding Boxes off 5% in First Quarter

Shipments of folding cartons during the first quarter of 1961 declined 5.3% from the same period last year, according to the Folding Paper Box Ass'n. Decreases from 3 to 9% in dollar volume were recorded in each of the three months. Tonnage was off similarly. The decline in both dollar volume and tonnage, however, moderated in March. New orders for folding cartons were off in the first quarter by 5.7% in dollar volume and 5.4% in tonnage, but new orders in March were only down 1% from March 1960.

New U. S. Newsprint Production Records

Production of newsprint in North America during March 1961 (a record high for this month) was 1.4% above that in March 1960. According to the Newsprint Service Bureau, U. S. output exceeded any previous month, and comparison with March 1960 showed a gain of 8.0%. Canadian production was 0.6% below the March, 1960 level. North American newsprint production in the first three months of 1961 was 0.8% above same period in 1960. Output of U. S. mills through the end of March was 4.9% more than the volume produced in 1960. Canadian production was 0.4% below the first quarter of 1960.

Paper Merchant Sales Strong

Printing paper merchant sales set an all time monthly high in March, states the National Paper Trade Ass'n. First quarter totals for printing papers showed an increase of 1.4% over same period in 1960. Merchants sales of industrial papers made their second consecutive advance in March, but first quarter sales still lagged 0.6% behind 1960 for the same number of working days.

Cut digester overlay costs with Aircomatic®

...backed by the most experience

What's your surfacing problem? If it's overlays for pulp digesters, Aircomatic equipment will do it with high efficiency and top speed. Through use of Aircomatic overlays many processors have, in fact, saved thousands of dollars in both equipment costs and downtime.

Whether you want metal-to-metal surfacing for resistance to corrosion, to thermal shock, to high temperature oxidation, or to abrasion or impact, you can depend on Airco equipment. Backed by the most experience, it gives you a better job. Call Airco.

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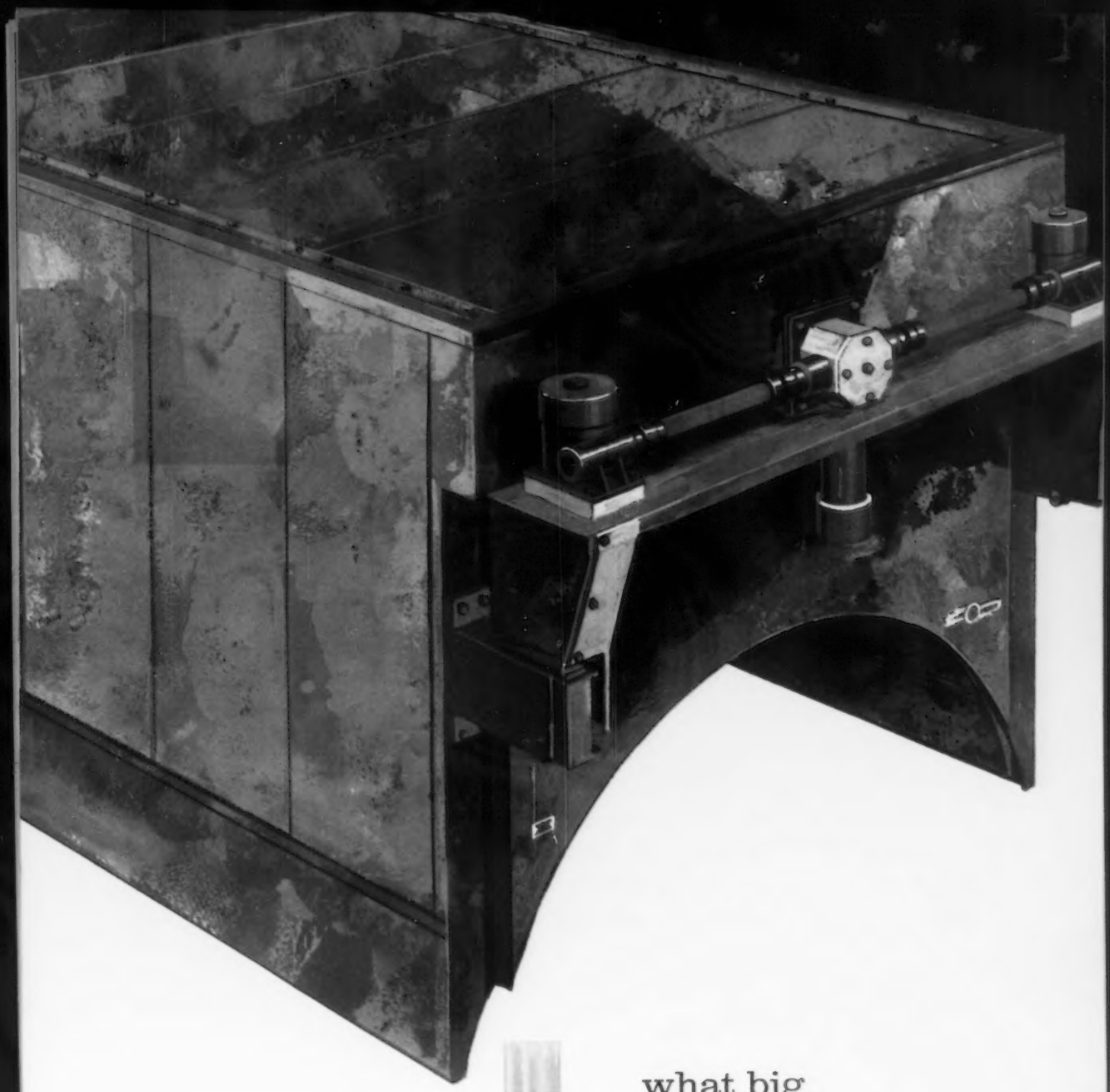


what big
advantage
does the

AIR CAP®

bring to
papermakers?

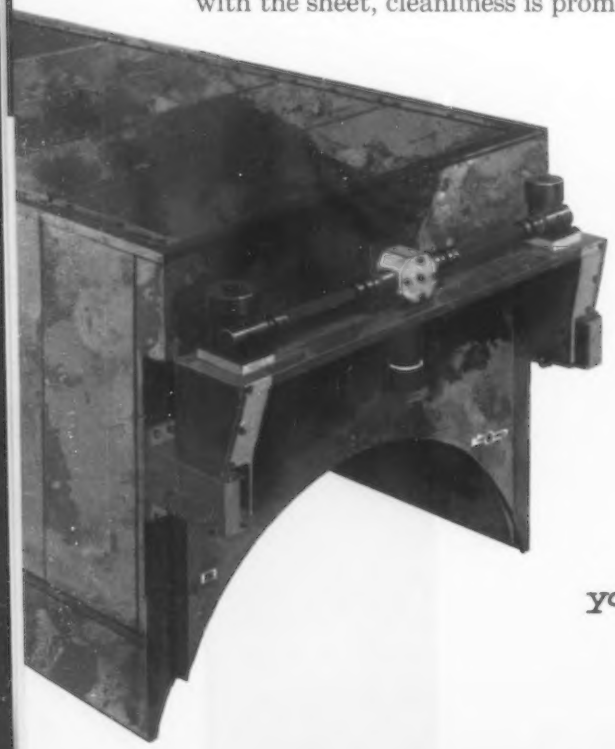
for answer, please turn page

Beloit AIR CAP®* controls and improves board and paper drying

The Beloit Air Cap couples the drying potential of high-velocity air and a design of high efficiency. Concentrated drying capacity is combined with minimum heat and power requirements and a high degree of flexibility.

The streamlined design is of very practical significance. Beloit design minimizes the possibility of interference with the sheet, cleanliness is promoted, and freedom from distortion is assured.

Cross machine correction can be provided. Beloit's arrangement has proved most effective in maintaining uniform moisture content for coating or at the reel. A Beloit representative will be happy to analyze the papermaking and economic possibilities of applications on your machine and discuss all details involved.



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PAPER MACHINERY

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For over 36 years, Industry has looked to West End Chemical Company as a dependable source of chemicals. Soda ash, sodium sulfate, salt cake, quicklime, hydrated lime and borax are included in the product line.

Located in the Mojave Desert some 190 miles northeast of Los Angeles, West End's Searles Lake location has long been recognized as one of the world's largest sources of inorganic salts. Searles Lake, which is now dry, was formed through the ages by waters carrying small quantities of the various salts in solution from the Sierra mountain range to what was then an inland sea. Subsequent volcanic activity blocked off the flow of these waters, leaving the lake to evaporate to its present day level. These acts of nature caused enormous quantities of inorganic salts to be left in the Searles Lake Basin.

West End's connection with Searles Lake dates back to that period following World War I when numerous companies were experimenting with various processes for extracting mineral wealth. After a number of years of experiment and research, the Hellmers Process (H. D. Hellmers, now West End Vice-President, Production) was adopted, and it is still the basis for today's operations.

Briefly described, the Hellmers Process involves the pumping of brine from the lake, treating the brine with carbon dioxide gas to form sodium bicarbonate which precipitates out. In the carbonation phase of the process, the borates contained in the brine as sodium metaborate and sodium tetraborate are converted to the more acid higher borates of sodium by the reaction of CO_2, eliminating part of the Na_2O by forming $NaHCO_3$. After separation of sodium bicarbonate from the carbonated brine, the latter is mixed with additional untreated brine from the lake in such proportions that practically all of the borates in the mixture are in the form of sodium tetraborate. This results in a state of supersaturation with respect to sodium tetraborate, which is crystallized from the mixture by the simple process of cooling and agitating. After settling, the brine is sent to the sodium sulfate recovery units and the settled borax recovered and refined. The bicarbonate recovered in the first step of the process is filtered, washed free of impurities, and converted to various grades of soda ash.

For a number of years soda ash and borax were West End's sole products. In 1938, installation of a hydrator made it possible to market hydrated lime.

In 1955, encouraged by the growth of the kraft pulp and detergent industries, West End made its first offering of salt cake and anhydrous sodium sulfate. In the intervening years, West End has become a major national source of these chemicals.

The new West End soda ash plant now under construction at a second natural source in Wyoming is scheduled on-stream in 1962. Produced under the same uniform management and controls of the parent plant, high quality West End soda ash from Wyoming will be available to industry in an ever-broadening market.

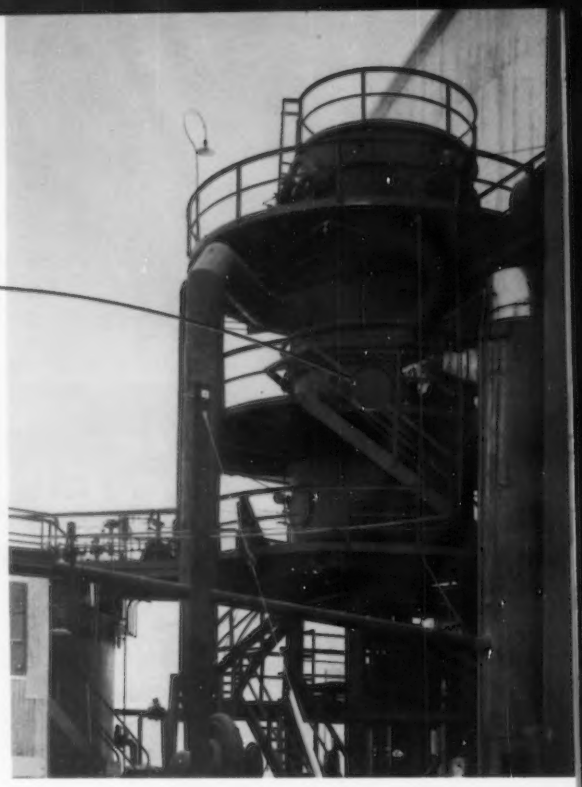
WEST END CHEMICAL COMPANY
Division of Stauffer Chemical Company

Stauffer CHEMICALS

636 California St., San Francisco, Calif. • Plant, Westend, Calif.

SODA ASH • BORAX • SODIUM SULFATE • SALT CAKE • HYDRATED LIME • QUICK LIME

WEST END SALT CAKE



Since mid-1955, West End has been recognized as a major producer of high-quality salt cake. Original production capacity of salt cake at the Westend plant was 50,000 tons annually, but with completion of a second unit in the fall of 1956, production capacity was increased to 120,000 tons per year. With completion of a third unit in 1961, capacity will increase to 200,000 tons per year. Today, West End is solidly qualified to handle the complete requirements of its customers dependably, economically and efficiently. West End salt cake is being used to a wide extent in kraft paper mills in the Pacific Northwest and the Southeastern section of the United States wherever a sulfate pulp process is utilized.

SALT CAKE

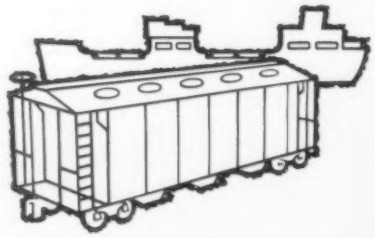
TYPICAL ANALYSIS

	Typical %	Guarantee %
Na_2SO_4	99.57 -99.87	99.5 Min.
NaCl	.06 -.14	.2 Max.
B_2O_3	.03 -.06	.1 Max.
CO_2	.02 -.04	.05 Max.
Na_2O	.05 -.09	.1 Max.
H_2O	.01 -.10	.2 Max.
Insoluble	.001-.01	.05 Max.

Density:
Struck Approx. 75 lbs./cu.ft.
Tapped Approx. 88 lbs./cu.ft.

Solution . . . . . Clear
Color . . . . . White

WEST END SALT CAKE IS MOVED ECONOMICALLY at great distances by truck, ocean vessel or by West End's own fleet of leased covered hopper rail cars. Stauffer of Canada storage depot . . . The West End project that solved the problems of time and cost of other means of transportation . . . typifies West End advance planning that provides customers with the benefits of reduced inventory requirements, lower transportation costs and prompt delivery.



Stauffer CHEMICALS

WEST END CHEMICAL COMPANY • DIVISION OF STAUFFER CHEMICAL COMPANY

636 CALIFORNIA STREET, SAN FRANCISCO, CALIFORNIA • PLANT, WESTEND, CALIFORNIA

LITHO IN U. S. A.

You don't have to replace stock pumps for the sake of one part.

On Goulds Model 3135, for example, side plates, shaft sleeves, bushings and rotating parts are all renewable. When a side plate wears, that's all you replace—and at a fraction of the cost of a casing replacement. You save on labor and downtime costs, too.

Cut spare parts inventory. Obviously, the stocking of renewable parts requires less dollars and space than new casings and pumps . . . allows replacement of parts most subject to wear with tough alloys such as stainless steel when needed.

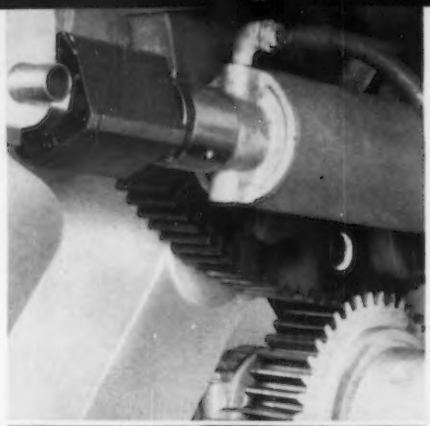
Like more detailed information? Send for bulletin on Goulds Model 3135: performance curves, conversion chart of ton output to G.P.M., an illustrated step-by-step description of the fast removal of the rotating element, and other useful information.

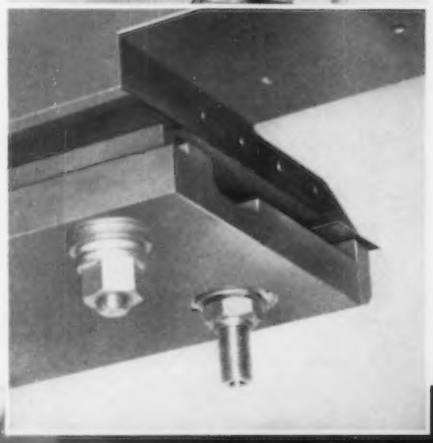
Goulds Pumps, Inc., Dept. PT-51, Seneca Falls, New York.

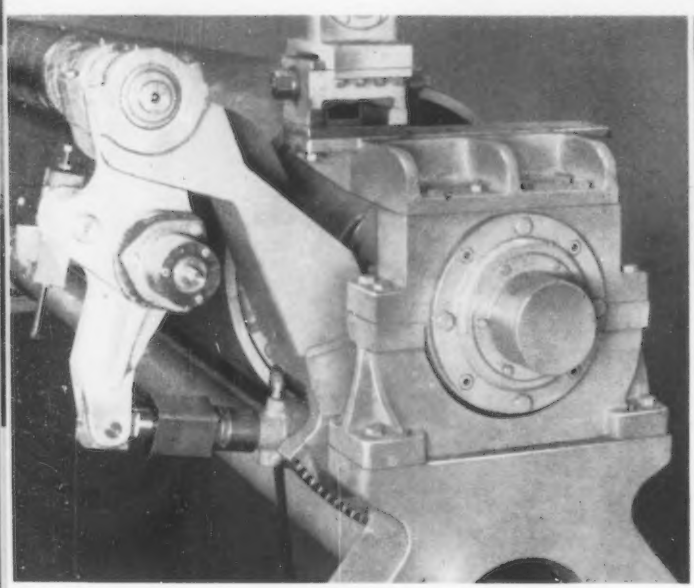
GOULDS PUMPS

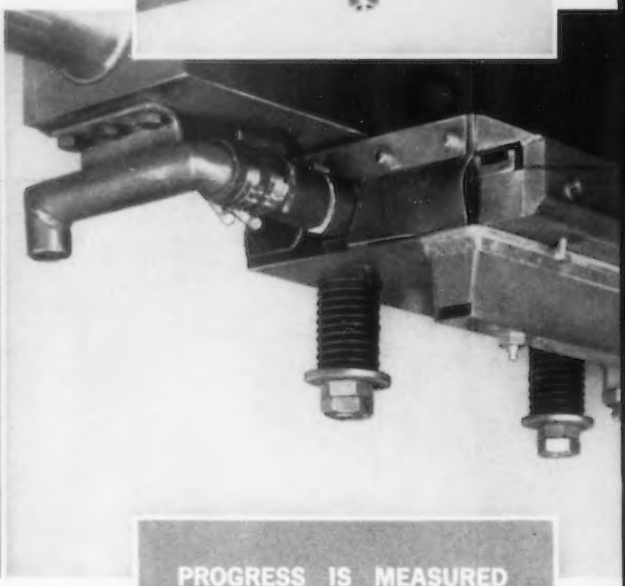
Only the **NEW** Rice Barton Trailing Blade Coater gives you **ALL** these advantages!

- Less blade wear-in time
- Less paper waste
- Accommodates different thickness blades
- Instantaneous blade and holder removal
- Blade adjustable by micrometer
- Coat weight control while running
- Positive head positioning
- Easier cleaning of all coating surfaces
- Faster speeds
- Less floor space
- More rugged construction









Completely redesigned for greater versatility and ruggedness, the changes are major improvements not just modifications of the original. Rice Barton engineers have combined the best features of everything learned from extensive research, continuous development and more experience than any other manufacturer.

PROGRESS IS MEASURED IN RESULTS—NOT CLAIMS. Rice Barton's results are over 60 commercial installations!

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PAPER TRADE JOURNAL
WEEK OF MAY 8, 1961

Patrician Paper Aims for September Start-up of Tissue Machine

Patrician Paper Co., one of the latest entries in the tissue manufacturing field, will bring a new high speed tissue machine into production about September 1, according to an announcement by Edward B. Mallory, president. Patrician has taken over the former Marinette Paper Co. plant located in South Glens Falls, N. Y.

In the meantime, the vacated plant is being renovated, and within a few weeks, a skeleton crew will be installing machinery. The plant interior is undergoing extensive alterations at the present time. Construction of new foundations for the machine is the major project at the moment.

The machine is a 137-inch Yankee fourdrinier being built by Sandy Hill based on specifications by Alvin H. Johnson, consulting engineers. "Most of the basic work that had to be done to prepare the mill is now getting to the finishing point and the sole plates for the machine have been installed which means that the machinery will start moving in both from Sandy Hill and from our converting machinery manufacturers," said Mr. Mallory in discussing the status of the project recently.

Walter L. Juckett, president of Sandy Hill, reported that his firm began work on the machine last October, and that work has been proceeding without interruption for delivery this summer.

Mr. Mallory, a veteran operating executive in the tissue field was formerly a vice president at the Thomson Paper Mills, and has been in the field of super market distribution, the basis of tissue selling, since 1932. His connections with the tissue industry date from 1937.

William H. Holl is the new firm's vice president-manufacturing.

Primary product of the firm will be boxed facial tissues. Rolls and poly-wraps will be other items produced. "Patrician" as a brand name will be emphasized by the firm.

Canadian IP Buys Dominion Cellulose

Canadian International Paper Co. has bought Dominion Cellulose, Ltd., it was announced by Vernon E. Johnson, president of Canadian International, and Menzie Gibson, president of Dominion Cellulose.

The purchase was made by acquisition of all the outstanding preferred and common shares of Dominion Cellulose. The price was not given.

Dominion Cellulose and its wholly owned subsidiary, National Cellulose of Canada, Ltd., are both located in Toronto. They manufacture and distribute a number of tissue and specialty paper products.

The purchased companies will continue under the same management and operate on the same general policies as in the past, the announcement said, with Menzie Gibson continuing as president of both.

Canadian International, with head office in Montreal, is a subsidiary of International Paper Co. of New York, and manufactures newsprint and other wood-fiber products. It has mills at Trois Rivieres, Gatineau, Temiskaming, La Tuque and Calumet in Quebec; at Hawkesbury, Ont.; and Dalhousie, N.B.

Rothesay to Start Construction of Newsprint Mill in N.B.

Sogemines, Ltd., and four other companies will begin construction of a modern $32 million newsprint mill at Saint John, N.B., this summer, president W. L. Forster announces.

The plant, employing one of the latest and largest newsprint machines, will have a capacity estimated at 140,000 tons annually. Production, it is hoped, will begin within two years, he said.

The mill will be owned and operated by Rothesay Paper Corp., of which Sogemines is a majority stockholder. A bill giving Rothesay title to 110 acres of land near the Courtenay Bay area was introduced in the Legislature recently.

Great Northern Planning R. & E. Center

M. C. McDonald, president of Great Northern Paper Co., Bangor, Me., has announced plans for the construction of a new $1,500,000 engineering and research building at the company's Millinocket plant. Construction will begin next month and the building is expected to be ready for occupancy by March 1, 1962.

The new laboratory has been made necessary by the increasing emphasis of the company on research and engineering, Mr. McDonald explained. The Great Northern research and engineering organization is rapidly increasing in size and importance. The new facilities will enable it to make increased contributions toward the company's programs of growth and diversification.

The modern new building will provide an area of 40,000 square feet for laboratories, engineering drafting, offices, and a library; plus a 13,000 square foot area for pilot plant, other experimental facilities, and storage space. In form it will consist of a central building for engineering and research, with an administrative wing and a pilot plant wing. The administrative wing will contain offices for David F. Pollard, manager of manufacturing; Warren F. Daniell, manager of engineering and research; and offices for the engineering purchasing staff.

The engineering section will provide facilities for design, power system, electrical, and construction engineering, including offices for Robert E. Crossley, chief engineer; Richard A. Jordan, chief design engineer; and Kelsie L. Fish, Richard H. Hale and Philip M. Coffin, in charge respectively of power system, electrical, construction engineering.

The research and development wing will contain laboratories and offices for research and development, technical service, staff quality control, and general services, including the offices of James R. Schoettler, technical director; Victor F. Mattson, director of research and development; Wally Z. Walters, director of technical service and quality control; and Paul D. Hubbe, director of administration.

Great Northern Paper Co. has been in operation for more than 60 years and is today the largest independent producer of newsprint paper in the United States. In addition to newsprint it makes a number of other types of groundwood printing papers. It draws for its raw materials on the forests of Maine, including its own large forests in northern Maine. It operates two plants, at Millinocket and East Millinocket, Me.

Boston Firm May Purchase Whiting & Co. Holyoke Mills

Negotiations are under way for the sale of the Whiting and Co., Inc., mills, long famous in the fine writing paper field.

Prospective buyer is Tileston and Hollingsworth Co. of Boston and Hyde Park which has made a tentative offer, according to Eugene H. Clapp, chairman of the board of the Boston firm.

Robert H. Belsky, president of Whiting and Co., confirmed that the firm is in the process of being sold.

Tileston and Hollingsworth which has executive offices in Boston and operates a fine papermaking plant in Hyde Park is a wholly owned subsidiary of the Penobscott Chemical Fiber Co. of Boston.

Whiting and Co. mill No. 3 has 200,000 square feet of floor space devoted to manufacture of paper and two fourdriniers, both 118 inches. Mill No. 2 has 300,000 square feet of floor space and three fourdriniers, 90, 84, and 60 inches.

Mr. Belsky is also president of the Romar Tissue Mills of Wheelwright.

Other officers of Whiting and Co. are J. Wesley Shaw, vice-president, and Maurice Belsky, treasurer.

Albemarle Awards Contract For Richmond Offices

Virginia Engineering Co. Inc., Newport News, Va., is being awarded the contract for construction of the new general office building of Albemarle Paper Manufacturing Co. to be constructed on Gamble's Hill in Richmond, Va. Announcement was made by F. D. Gottwald, President of Albemarle.

The 240 by 59 foot white brick building trimmed with limestone will face south on Arch Street overlooking Gamble's Hill Park and the mills of the company between the James River and Kanawha Canal and the river. Containing 56,000 square feet, it will be on the approximate site of "The Gamble House" which inspired the type and form of the new building.

Bowling League to Hold Annual Dinner

The Paper Industry Bowling League will hold its 25th Anniversary Dinner at the Hotel Piccadilly in New York City on May 19.

Further information can be obtained from Frank Ueckermann of the St. Regis Paper Co., 150 East 42nd St., New York.

Paper and Paperboard Production

The American Paper and Pulp Association reported the ratio of the United States paper production to mill capacity for the week ending April 22, 1961, at 91.0 per cent, compared with 92.8 per cent, revised, for the preceding week. The ratio was 94.4 per cent for the corresponding week a year ago.

The National Paperboard Association reported the paperboard production ratio for the week ending April 22, 1961, at 92 per cent, compared with 93 per cent for the preceding week and 86 per cent for the corresponding week a year ago.

(Detailed Statistics on page 58)

PAPER PEOPLE

Harold Bialkowsky

Stora Kopparberg Names Assistant to President

Stora Kopparberg Corp., New York, N. Y., has appointed Harold Bialkowsky assistant to the president. Dr. Bialkowsky will be in charge of cellulose research and product development.

A native of Holyoke, Mass., Dr. Bialkowsky is a graduate of M.I.T. in electrochemical engineering. He received his M.S. and Ph.D. at the Institute of Paper Chemistry at Appleton, Wis.

Dr. Bialkowsky started his career as a research chemical engineer for American Writing Paper Corp. of Holyoke, Mass. From 1933 to 1941 he was technical director of Gilbert Paper Co., Menasha, Wis. Since 1941 he has been with the pulp division of the Weyerhaeuser Timber Co., serving as director of research for the past 13 years.

Foley Resigns from MacM., Bloedel & Powell

J. V. Clyne, chairman of the board of MacMillan, Bloedel and Powell River, Ltd., has announced the resignation of M. J. Foley, president of the company. Mr. Foley has resigned to take a position in Eastern Canada. His resignation will become effective after the annual meeting at which time consideration will be given to the appointment of his successor. Mr. Foley became president of the company following the amalgamation of Powell River Co. and MacMillan and Bloedel at the end of 1959.

Columbia Box Board Ups Two at Walloomsac

Columbia Box Board Mills, Inc., Chatham, N. Y., has announced the promotion of Joseph P. Vinck from division administrator to general manager of the Walloomsac Division. Mr. Vinck's new duties will make him completely responsible for all personnel assigned to his division as well as functions of general administration.

At the same time Wendell Croyle was promoted from tour boss to superintendent of Walloomsac Division. Mr. Croyle's new responsibilities will cover papermaking machine operations, maintenance, shipping, receiving and all departments directly connected to mill operations, as well as all personnel assigned to such departments including all equipment, machinery and supplies.

National Vulcanized Fibre Names Executives

National Vulcanized Fibre Co., Wilmington, Del., announced executive changes involving its Wilmington and Newark plants.

Clarence J. Pyle, manager of the general division, has been assigned responsibility for fabricating operations in Chicago, Los Angeles and Toronto, as well as at the Newark and Wilmington plants, which he has managed the past two years.

John W. Carrow, former vice president and manager of Haveg Corp., division of Haveg Industries, has been named assistant manager and will direct operations for the Wilmington and Newark plants.

I-P Promotes Three In Southern Kraft Div.

Promotion of three company officials has been announced by the Southern Kraft Division of International Paper Co.

Fred B. Bradshaw, personnel director of the Pine Bluff, Ark., mill, has been appointed assistant to the manager of industrial relations for the Southern Kraft Division with headquarters in Mobile.

C. A. Nobels, production superintendent of the Georgetown, S. C., mill, was named assistant mill manager there. He replaces Adam Rozyskie, who is retiring.

William J. McCanless was promoted from assistant personnel director to personnel director of the Pine Bluff mill, replacing Mr. Bradshaw.

H. C. Scott

Scott Joins SFI At Snowflake Mills

Henry C. Scott, Jr., has been named sales manager for kraft products by Southwest Forest Industries, Phoenix, Ariz. He will be in charge of the sales of kraft paper and linerboard which will be produced by Southwest's pulp and paper mill now under construction and expected to be on stream late this year. The new mill, located at Snowflake Mills in Arizona, represents an investment of $32.5 million and is Arizona's first pulp and paper mill.

Mr. Scott comes to Southwest from Union Bag-Camp Paper Corp., where he had served in a sales capacity in Denver, New York and Birmingham since 1955. A native of New York City and a graduate of Yale University, Mr. Scott was previously with the Latin American Division of W. R. Grace & Co.

Sibley Joins Halifax Personnel Department

Samuel J. Sibley, of Natchitoches, La., has joined Halifax Paper Co., Inc., Roanoke Rapids, N. C., as assistant personnel manager. Mr. Sibley will fill the vacancy created as a result of the promotion of Ray Smith to personnel manager.

Mr. Sibley is a 1953 graduate of Northwestern State College and continued his education at Louisiana State University. Prior to his appointment at Halifax, he was employment supervisor for the Roberts Co., Sanford, N. C.

R. E. Vannatta

Mead Names Cincinnati Division Manager

Russell E. Vannatta, plant manager of The Mead Corp.'s Cincinnati Division for the past eight years, has been promoted to division manager.

Mr. Vannatta joined Mead in 1946 as a draftsman at the Cincinnati Division, the former Excello Paper Products Co. In 1947 he was placed in charge of the Maintenance department and later that same year was advanced to plant engineer. He became plant manager in 1953.

A native of Quincy, Ill., Mr. Vannatta was an engineering student at Western Michigan College when he enlisted in the U-S Navy Aviation Program in 1942. He continued his studies at Western Michigan until 1943 when, under auspices of the Navy, he was transferred to Renesselaer Polytechnic Institute as a mechanical engineering student. In 1945, he was assigned to Great Lakes, Ill. and a year later was discharged.

Veteran Paterson Salesman Announces Retirement

George C. Mayer, a veteran sales representative of the Paterson Parchment Paper Co., and a former vice president and member of the company board of directors, observed his 50th anniversary with Paterson on May 1.

Mr. Mayer announced his retirement effective on that date.

Dickmeyer Joins Mead Container Division

Paul F. Dickmeyer, former vice president and treasurer of the Ft. Wayne Corrugated Paper Co., now owned by St. Joe Paper Co., has joined Mead Containers Division of Mead Corp. as assistant general administrative manager.

Oxford Announces Four Promotions

Four promotions at the Oxford Paper Co. have been announced.

Earle D. Thomas has been promoted to general superintendent, paper manufacturing. He succeeds George E. Prentiss who was recently transferred to the Oxford-Lawrence division at Lawrence, Mass.

Cyril E. Johnson has been promoted to supervisor, machine coated division and supercalendering. He succeeds Mr. Thomas.

Alton V. Stiles has been promoted to assistant supervisor, machine coated division and supercalendering. He succeeds Mr. Johnson.

Vincent A. Morrison has been promoted to supervisor of the Maine coated department where he has been acting superintendent since 1957.

O-M Names Mid Atlantic Sales Mgr., Film Operation

Robert D. Eklund has been appointed district sales manager for the Middle Atlantic district, film operations of the Packaging Division, Olin Mathieson Chemical Corp. He was formerly an Olin film salesman in the Midwestern district.

Mr. Eklund, with the company since 1955, received a B.A. from the University of Minnesota.

Headquarters of the Middle Atlantic district, which covers Delaware, Kentucky, Maryland, New Jersey, Ohio, Pennsylvania, Virginia and West Virginia, are in Bala-Cynwyd, Pa.

The film operations manufacture Olin cellophane and Olin polyethylene. Olin's Packaging Division also produces kraft paper and board, shipping containers, multiwall sacks, grocery bags, folding cartons, cigarette paper, lightweight printing papers and lumber.

Con Can Names R&D Head For Fiber and Steel Drums

H. A. Bergstrom has been named director of research and development for fiber and steel drums at the General Packaging Research and Development Division of Continental Can Co. in Chicago.

Mr. Bergstrom was previously director of research at the fiber drum laboratories in Van Wert, Ohio. These laboratories will now be consolidated in new Chicago facilities where research and development work is also done on other forms of packaging involving use of paper and plastic materials.

L. H. Schoenhofen

CCA Elects Executive Officers

Container Corp. of America, Chicago, Ill., has re-elected Wesley M. Dixon chairman of the board and chief executive officer of the company.

John V. Spachner was elected vice chairman of the board and a member of the executive committee. His previous position was executive vice president of the company.

Leo H. Schoenhofen was elected president and a member of the executive committee. Prior to Mr. Schoenhofen's election as president, Mr. Dixon had served as both chairman of the board and president.

Mr. Dixon stated that Mr. Spachner, in addition to his responsibilities as vice chairman, will be in charge of foreign operations and Mr. Schoenhofen as president will be in charge of domestic operations.

All other officers of the corporation were re-elected.

Hammer to Succeed Robinson at Mead

Thomas A. Hammer, Jr., was elected treasurer of The Mead Corp. He succeeds George Robinson who has retired as an officer in accordance with the company's established retirement plan.

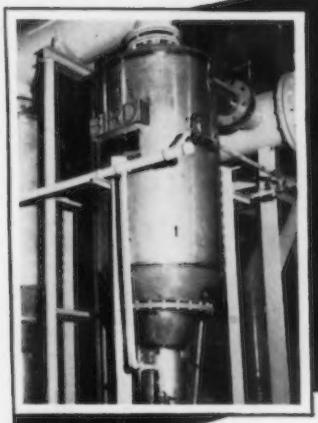
Mr. Hammer, assistant treasurer since April 1959, joined Mead in 1957; coming to Dayton from Syracuse, N. Y., where he was associated with Carrier Corp. for five years as executive assistant to the financial vice president.

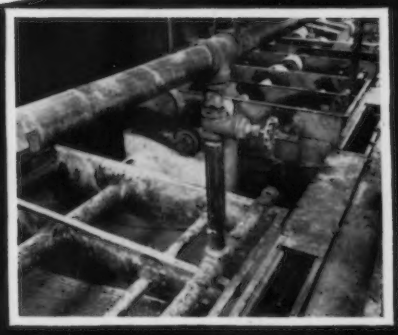
Scott Names Technical Director at Everett

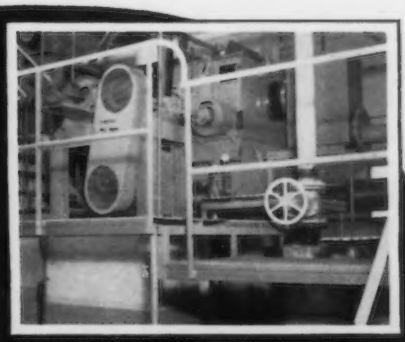
Edmund S. Oshetsky has been named technical director of the Scott Paper Co. Everett plant. He joined Scott at Chester, Pa., in 1951 as a chemical engineer in the research division. He moved to Wisconsin two

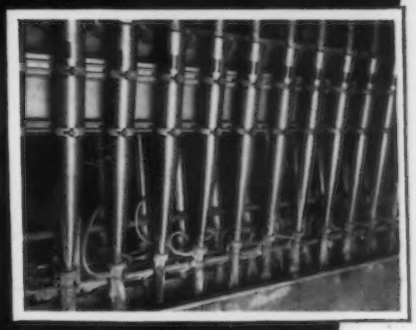
BIRD MACHINERY

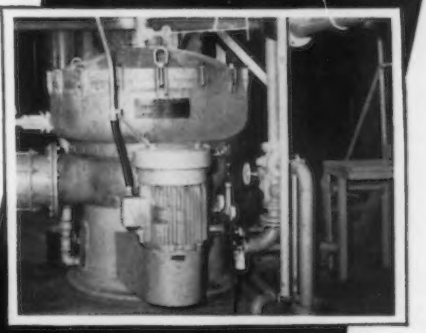
right down the line for clean, bright de-ink stock . . .











1 **The Bird Centriffler** takes the stock from the pulper and removes the junk, bottle caps, glass, sand and other oversize and heavy dirt that does damage to equipment or gets broken up into fine dirt.

2 **The Bird Jonsson Screen** with perforate plates whisks out the wet strength paper, cellophane, rubber, metal — anything that would clog up the fine screens. It handles large volume at low cost, with minimum loss of fibre.

3 **The Bird Vibrotor Screen** with fine cut slotted plates takes out the small particles of rubber, latex, ink balls and floating contaminants such as polyethylene. Handles up to 100 tons per day or more of 1.9% stock.

4 **Bird Cycleans** do the final polishing before the stock goes to the Centriscreen. Secondary Cycleans treat the rejects from the Centriscreen and the rejects from these are put through tertiary Cycleans. Increased brightness, fewer machine breaks, longer wire life and faster paper machine operation result.

5 **The Bird Centriscreen** delivers continuous full volume of uniform quality stock to the paper machine day in and day out. Costly pinholes and breaks are no longer a problem. Centriscreens have become the accepted standard paper machine screen for de-ink.

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years later, first to the company's mill at Oconto Falls and later to the Marinette plant as technical control director.

For the past several months Mr. Oshetsky has been in Australia aiding in the technical aspects of mill operations during the startup of the new papermaking facilities of the Bowater-Scott Australia Pty., Ltd., plant near Melbourne, a Scott affiliate.

NYS College of Forestry Honors Morgan

An honorary doctor of science degree has been awarded to Howard W. Morgan, Weyerhaeuser Co. executive, by the New York State College of Forestry, Syracuse University.

Mr. Morgan was honored at ceremonies held in conjunction with the school's 50th anniversary seminar last week. He also discussed "Challenges in the Use of Wood" as part of the seminar.

He graduated in forestry from Syracuse in 1926 and received his M.S. from the school in 1928.

Mosinee Names Esselman Paper Mill Superintendent

Mosinee Paper Mills Co., manufacturer of specification papers, announces that James B. Esselman has joined the firm as pulp mill superintendent.

For the past four years, Mr. Esselman has been assistant superintendent of the kraft pulp mill for Georgia-Pacific Paper Co. at Toledo, Ore. Previous to that period he was pulp mill tour foreman at Longview Fibre Co., Longview, Wash.

Mr. Esselman began his pulp and paper career with Nekoosa-Edwards Paper Co. immediately after being graduated from St. Norbert College in 1948.

Continental Can Forestry Scholarships Awarded

A. L. Wenrich, district manager for Continental Woodlands, Hopewell, Va., recently announced the award of the 1961 Continental Can Co. Forestry Scholarships to Samuel Buchanan Land, Jr., of South Hill, Va., and Tommy Douglas Gregory of Angier, N. C. The scholarships are for $1,000 per year and for four years of study in the field of forestry. The scholarships are awarded annually by Continental Can Co. to create a greater interest in the study of forestry by outstanding high school graduates in Virginia and North Carolina.

PJT NEWS OF CONVERTERS

St. Joe Paper to Build Multi-Million Dollar Plant in Birmingham

Edward Ball, chairman, executive committee, St. Joe Paper Co., announced that work will start next month on a multi-million-dollar brick and steel, one-story structure in Birmingham, Ala., to house expanded container manufacturing facilities.

A 12-acre tract purchased recently from the Louisville and Nashville Railroad will be the site of the new building, which will contain 170,000 square feet of floor space. It is scheduled to be completed by 1962.

Daniel Construction Co. of Birmingham has been awarded the contract for the project. Existing equipment from the present container plant will be transferred to the new location. In addition, a large corrugator will be installed so that combined sheets of containerboard may be produced. The combined containerboard now used in Birmingham is shipped in sheet form from the box plant in Port St. Joe, Fla.

New Grand Rapids Plant Starts Production

With installation of part of its box-making equipment, Allied Corrugated Container Co., one of the newest industries in Grand Rapids, Mich., has started limited production.

"We expect to be in normal production, with an increase in our work force, by the end of the month," Robert Blett, sales manager, said.

Allied now employs 16 at its plant, 2535 28th St. SW, home of Michigan Door Co., Allied occupies most of the plant and eventually hopes to take over the whole factory. Two hundred persons are expected to be employed at Allied by the end of the year.

Michigan Door still does some manufacturing at the rear of the plant, but Louis N. Mulder, its president, plans to move later in the year to a new plant.

B. C. Paper Converters Names President

H. D. MacLachlan has been appointed president of B. C. Paper Converters, Ltd., Vancouver, B. C., and J. R. Grubbe has been named vice president. The largest paper converting plant of its kind in Western Canada, the firm specializes in production of all types of small paper roll products and communication tapes. The company has headquarters at 690 Derwent Way, Annacis Island, New Westminster, B. C.

Gormley Joins U.S.E. In Newly Created Post

Edward P. Gormley has been appointed to the newly created position of manager, market research, at United States Envelope Co.

Mr. Gormley, who formerly was assistant product planning manager with the New Products Division of Mead Corp. in Cincinnati, will work under Hans P. Stibolt, vice president.

Mr. Gormley also was associated with the research and development department of the Gaylord Division, Crown-Zellerbach Co., St. Louis.

American Envelope Becomes Division of Kimberly Clark

Effective May 1 the American Envelope Co., became the Karolton Envelope Co., division of Kimberly Clark Corp.

American Envelope's Moraine paper mill will be integrated into the parent firm's industrial products division, in the change affecting the converting plant in East Carrollton, Ohio, and the Karolton Envelope plant in Chicago.

The change was necessary to separate paper production and envelope converting operations and to build up an envelope sales organization, according to W. R. Kellett, president of Kimberly Clark.

Heading the new division will be R. P. Bertschy, executive vice president of American Envelope.

(Continued on page 19)

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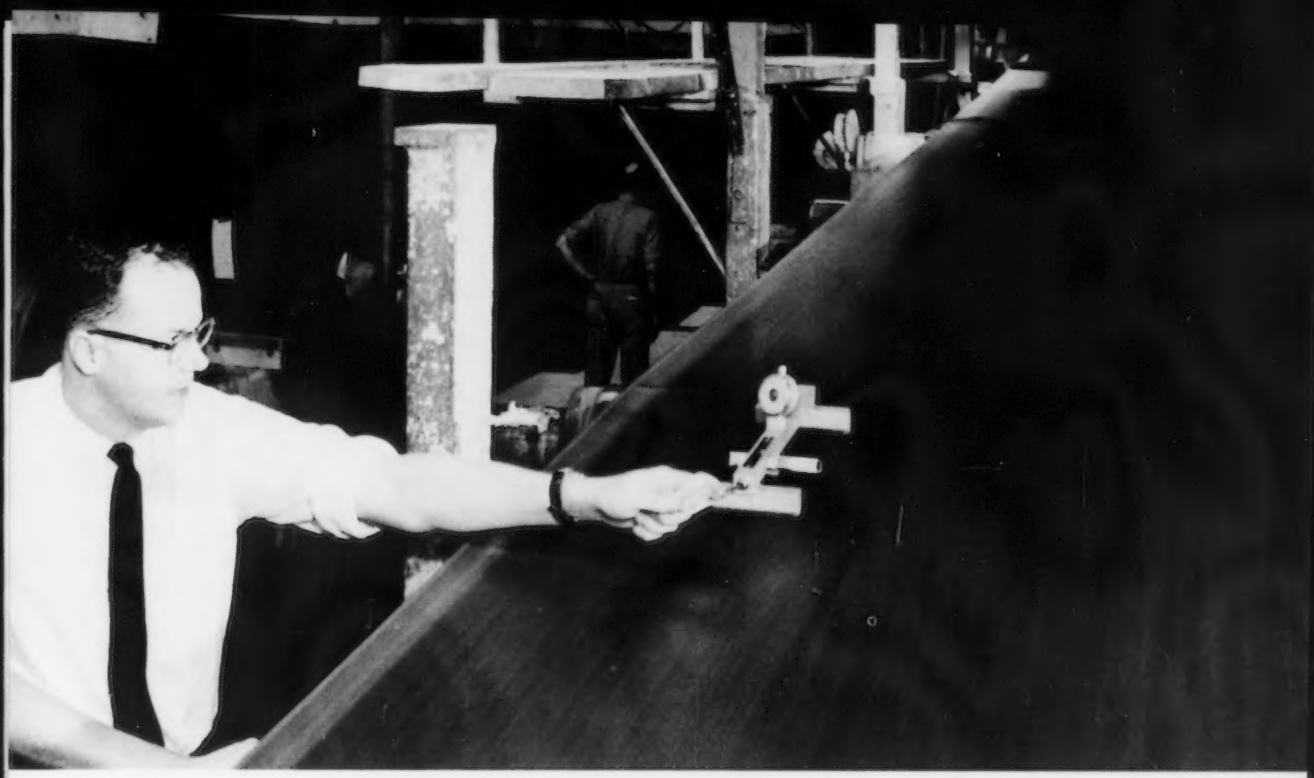

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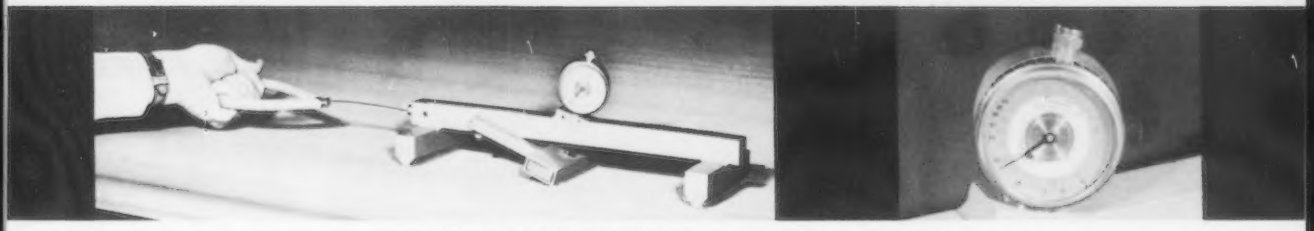

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When you do, you are on the way to cutting your costs per ton.

The Huyckmeter is the only portable tension instrument available to the papermaking industry. Its purpose is to put a number (pounds per linear inch) on running felt tension. With the Huyckmeter, the best tension level for maximum performance and life can be maintained felt after felt. ***You may now purchase the Huyckmeter for your own paper mill.***

The Huyckmeter is only one of many instruments employed by our Field Service Engineers. Ask your Huyck Man how the Felt Measuring Wheel, the E.D.S.I., The Beta Ray Gauge, the Huyck-Smyth Porosity Tester and the Felt Impression Tester can contribute to High Performance on your machine.

The readings from these instruments are translated by Huyck Engineers into improved design and the creation of better felts.

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Division of Huyck Corporation

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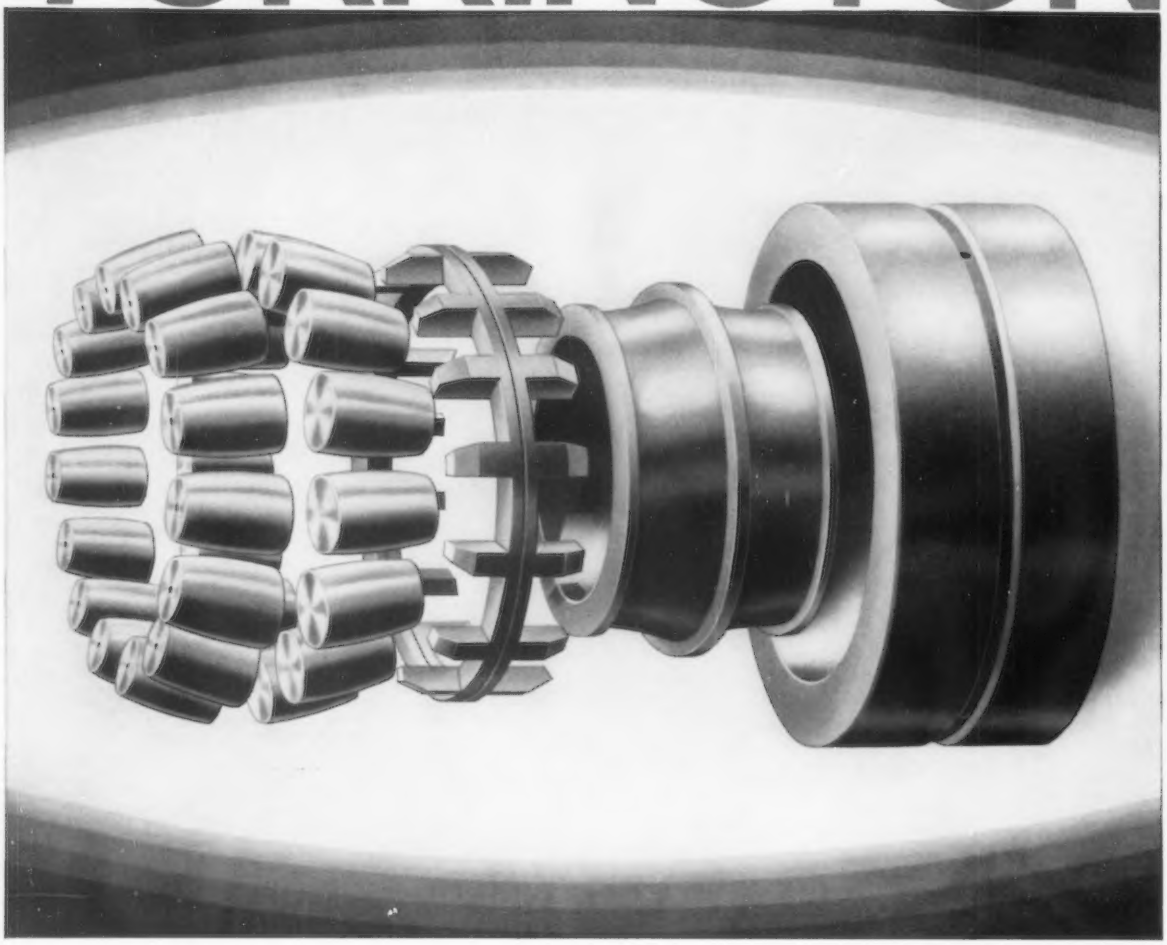
FIRST IN FELTS SINCE 1870

TORRINGTON



FOR THE INSIDE STORY...

...ON TORRINGTON SPHERICAL ROLLER BEARINGS, one word: *precision*. Each individual part is precision-engineered to the highest standards in the industry...functions precisely and efficiently with all other parts.

Every roller is matched electronically within .0001" for even-load distribution and maximum capacity.

Each independent land-riding cage spaces rollers precisely...prevents roller drag even under the heaviest loads and possible misalignment.

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For minimum friction and wear, both inner and outer races are precision ground to conform exactly to roller contours.

Put together...a Torrington Spherical Roller Bearing for superior performance, reliability and long service life. Buy the best...specify Torrington.

SUPERIOR PERFORMANCE FEATURES OF TORRINGTON SPHERICAL ROLLER BEARINGS

- ☐ inherent self-alignment
- ☐ conformity of rollers to raceways
- ☐ integral center guide flange for stability
- ☐ positive roller guidance
- ☐ land-riding bronze cages
- ☐ maximum radial and thrust capacity
- ☐ controlled internal clearance
- ☐ electronically selected rollers
- ☐ even load distribution
- ☐ long, dependable service life

progress through precision

THE TORRINGTON COMPANY

TORRINGTON BEARINGS

South Bend 21, Indiana • Torrington, Connecticut

Metal Edge and Carpenter Enter Sales Agreement

Metal Edge Industries of Barrington, N. J., has entered into a cooperative sales agreement with the Carpenter Paper Co. of Minneapolis, Minn., it was announced by A. E. Wolf, sales director of Metal Edge Industries.

Under the agreement, the Carpenter Paper Co. will represent Metal Edge Industries in the Minneapolis area and throughout Texas for Metal Edge and folding custom packaging and materials handling and inventory control items.

Metal Edge Industries markets the Metal Edge Method, which allows its customers to assemble Metal Edge packaging and materials handling and inventory control specialties in their own plants as the articles are needed for production.

CCA Appoints Baltimore Personnel

Container Corp. of America, Chicago, Ill., has announced two new appointments affecting Baltimore personnel.

Richard C. Winkler becomes general manager of the Baltimore plant, and G. H. Linde will be special sales representative in that territory.

Mr. Winkler, who succeeds Mr. Linde in his new post, joined the company in its Boston corrugated plant as a trainee, progressing to plant manager. He transferred to Baltimore as plant manager in November 1960.

Orchard Paper Adds To Executive Staff

George M. McGinnis has been appointed vice president of Orchard Paper Co., St. Louis, Mo. He has also been elected to the board of directors and has been appointed a member of the executive committee.

Until recently, Mr. McGinnis has been general superintendent of Operations, Bag Division of Union Bag-Camp Paper Corp. of Savannah, Ga. Under his direct supervision were approximately two thousand employees, eighty-three supervisors and nine superintendents.

Mr. McGinnis will bring with him to Orchard Paper Co. a wealth of experience in the paper industry. His office will be located in St. Louis and he will be in charge of all manufacturing operations of Orchard's four plants located in St. Louis, Mo.; Potsdam, N. Y.; Los Angeles, Calif.; and Atlanta, Ga.

Hanes Lassiter

Riegel Paper Realigns Operating Units

A major realignment of the operating divisions of Riegel Paper Corp. was announced by John L. Riegel, chairman, and Frederick S. Leinbach, president.

The Riegel executives said the realignment was necessary "to provide for a logical grouping of functions, products and markets and to complete the consolidation of companies acquired last year." In 1960 Riegel Paper acquired Lassiter Corp. and Bloomer Bros. Co.

Under the realignment the following steps have been taken:

A Flexible Packaging Division has been established with J. Hanes Lassiter, vice president, named general manager of the division. This division will handle the production and sale of converted flexible packaging materials, including papers, films, and foils.

A Paper Division has been set up to handle production and sale of merchant, industrial and converting papers, and G. Lamont Bidwell, Jr., vice president, has been named general manager.

Production and sale of folding cartons primarily for the food field, will be the responsibility of a new Folding Carton Division to be headed by Chalmers W. Barr, general manager.

According to the company, there are no changes in personnel or assignments at the Pulp and Paperboard Division in North Carolina, or in the company's subsidiary, Bartelt Engineering Co.

Charles E. Schaehrer, vice president, has been advanced to assistant director of marketing. R. L. Kerridge continues as vice president and director of marketing for the corporation.

"A new kind of chip board—potato chip."

Central Paper Acquires Touchdown Corp.

Central Paper Co., Menasha, Wis., a leading manufacturer of water-moistened gummed tapes and other converted paper products, has purchased one hundred per cent of the capital stock of the Touchdown Corp. of Chicago, W. J. Gerbrick, president of Central Paper, has announced. Touchdown manufactures a complete line of pressure sensitive tapes and printers' stock which will be added to the current line of Central products.

Fred Wolf, former president of the Touchdown Corp., has joined the staff of Central Paper Co. as manager of this new division.

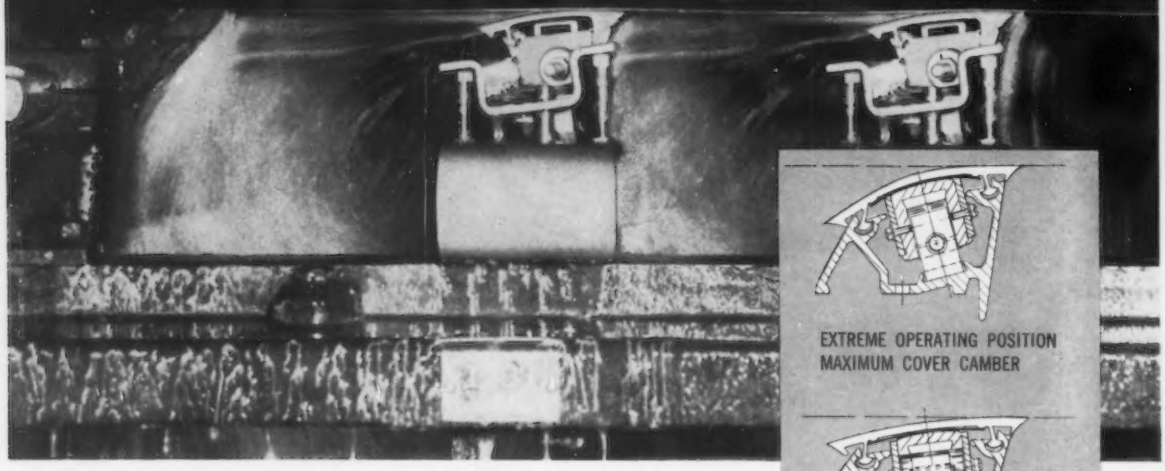
Herrlinger to Head Gummed Products Co.

St. Regis Paper Co. announces that Edward F. Herrlinger II has been named president of The Gummed Products Co. Division of Troy, Ohio. Mr. Herrlinger, who succeeds his father, the late Roth F. Herrlinger, is a grandson of the founder of Gummed Products and the third generation of the family to head the company.

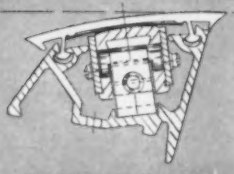
Mr. Herrlinger joined Gummed Products in 1950. He served as secretary and a director of the company, manager of the sealing tape department, and subsequently, was named vice president in charge of sales, following the acquisition of Gummed Products by St. Regis in 1956. He is a graduate of Taft School and Yale University.

Improved Sheet Formation — Controlled Drainage

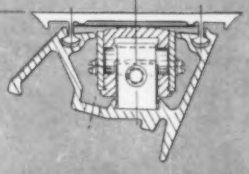
with the NEW LODDING Wire Doctors



EXTREME OPERATING POSITION
MAXIMUM COVER CAMBER



TYPICAL OPERATING POSITION
MODERATE COVER CAMBER



CAM MECHANISM RETRACTED
COVER CHANGING POSITION

DISRUPTIVE PRESSURE RIDGES, WIRE SAG AND SNAP BACK — obstacles to good sheet formation — are eliminated where table rolls are replaced with Lodding Adjustable Fourdrinier Wire Doctors. Wet streaking and worming of the sheet caused by table rolls disappear. Improved formation results.

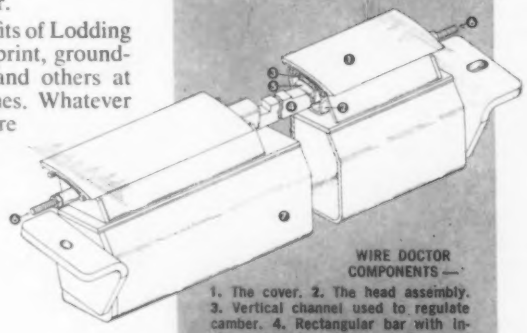
Optimum wire drainage is achieved by adjusting the Wire Doctor cover. The camber of the cover, height and tilt of the Wire Doctor are easily adjusted while the machine is operating.

With Lodding Wire Doctors available, drainage area is utilized far more than is possible with table rolls. Improved productivity — increased production — result.

Lodding Wire Doctors consist of a semi-rigid, extruded cover, a standard size head assembly (designed to position the cover vertically and regulate its camber) a support beam and mounting brackets.

The Fourdrinier wire is supported by the cover, which doctors excess water from the underside. Also, the cover induces drainage through a vacuum created between the wire and the cover.

Many progressive papermakers are reaping the benefits of Lodding Wire Doctors on machines making glassine, book, newsprint, groundwood specialties, tissue and light weight fine papers and others at speeds of 100 to 2000 fpm, at widths up to 276 inches. Whatever stock you are running, it will pay you well to learn more about this proven way to increase the productivity of your Fourdriniers. Send today for Bulletin No. 6005. It describes the Lodding Adjustable Fourdrinier Wire Doctor in detail.



WIRE DOCTOR COMPONENTS —
1. The cover. 2. The head assembly. 3. Vertical channel used to regulate camber. 4. Rectangular bar with inclined milled surfaces. 5. Flattened pin used to regulate the vertical movement of the channel. 6. Studs to regulate the horizontal movement of the bar. 7. The support beam.

LODDING
Engineering Corporation
AUBURN, MASSACHUSETTS

GELVA® C-3 and C-5 polyvinyl acetate resins

GELVA C-3 and C-5 Copolymer Resins provide improved wet strength, surface erasability, ink receptivity, surface gloss and grease and abrasion resistance. Add to these . . . increased Mullen, wax pick, tensile and fold strength, plus easy broke recovery, and you have the reason for the rapidly increasing use of these products by the paper industry.

Coast-to-coast warehousing, Shawinigan's large staff of research chemists who are ready to help you with your particular problems, and highly trained field representatives add up to an organization that can help you improve your products and your profits. Write to Shawinigan Resins Corporation, Dept. 7R Springfield 1, Massachusetts.

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GELVA® *polyvinyl acetate resins by* **SHAWINIGAN RESINS**

Another example of "Virginia" nationwide technical service

"We can get 77 points with one peroxide stage
...but costs sometimes hit $25 a ton...
we are considering a second stage of hydro
...send a technical representative."

Fortified with facts and field experience, a "Virginia" technical representative called on this paper mill. After a careful analysis of the entire operation, he sat down with the management to thrash the problem out.

The big trouble was they had reached the flat point in the brightness-concentration curve of the peroxide. To pick up one brightness point they were using an extra 1% of peroxide and paying a premium of around $4. Our man pointed out that at the same cost they could pick up five brightness points by means of a second stage of zinc hydrosulfite. The mill agreed to a trial and equipment was brought in for the second stage. The mill paid for nothing but the actual hydro used. The results proved highly satisfactory, the pulp attaining a degree of brightness that put the mill in a very advantageous competitive position.

If you wish the facts on 2-stage bleaching of groundwood pulp, using hydro for the second stage, wire, phone or write us. We will send data—or, if you prefer, a "Virginia" technical man. Write Chemical Division, VIRGINIA CHEMICALS & SMELTING COMPANY, Dept. 298, West Norfolk, Va.

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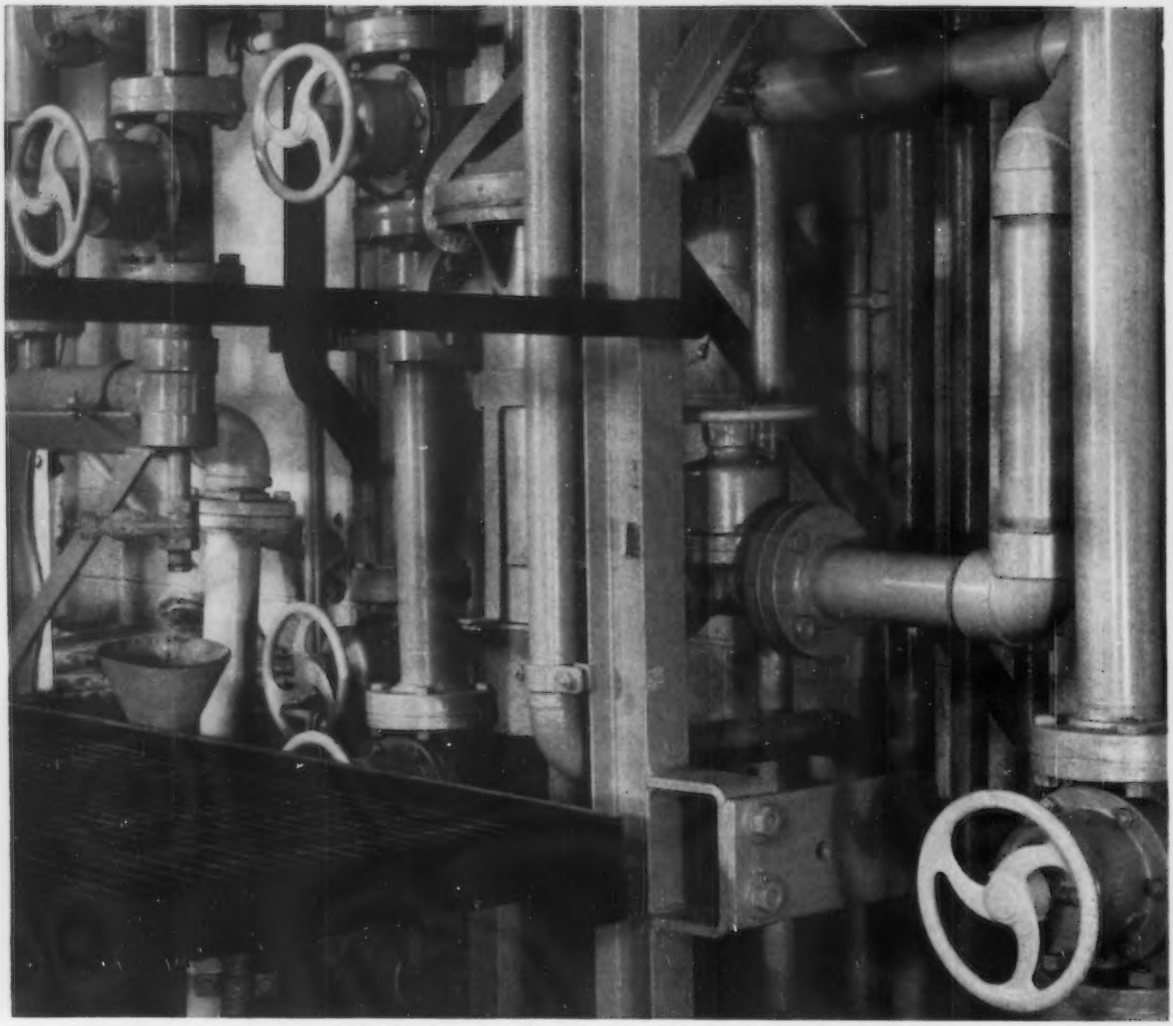
Cleaner stock... CENTRI-CLEANERS	Improved fiberizing of chips, higher machine speeds... DOUBLE REVOLVING DISC REFINERS	Continuous or rapid cycle cooking and impregnation... DIGESTERS	Final stock preparation ...PUMP THROUGH REFINERS	Liquor removal... PRESSAFINERS	Automated high yield systems ...BAUERITE

THE *Bauer* BROS. CO.

Springfield, Ohio

IN CANADA: THE BAUER BROS. CO. (CANADA) LTD.
Brantford, Ontario



Grinnell-Saunders Straightway Valves* on duty 3 years in pioneer bleach-liquor process

In world's first continuous, automatic
ORP controlled-reaction $Ca(OCL)_2$ process . . .

Grinnell-Saunders Diaphragm Valves mark third year of trouble-free service

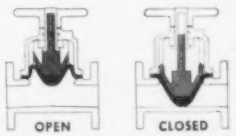
3 years ago, the world's first continuous, automatic semi-clarified calcium-hypochlorite process—using oxidation-reduction-potential control of reaction — went on stream at Crown Zellerbach's St. Helens, Ore. mill. Selected to control materials-flow in this pioneer installation: Grinnell-Saunders Diaphragm Valves.

Today, Crown Zellerbach reports that the Grinnell-Saunders Diaphragm Valves still give trouble-free service even after 3 years of handling highly-corrosive bleach-liquor!

*Patented

Grinnell-Saunders Diaphragm Valves offer streamline flow — leak-tight closure — easy maintenance. Working parts are completely isolated from material in the line to prevent corrosion, abrasion, clogging. Wide choice of body, lining and diaphragm materials, too.

See how Grinnell-Saunders Diaphragm Valves can help *your* installation. Write or call Grinnell Co., Providence 1, Rhode Island.



GRINNELL COMPANY, PROVIDENCE 1, R. I. • BRANCH WAREHOUSES AND DISTRIBUTORS FROM COAST TO COAST
PIPE FITTINGS • VALVES • PIPE HANGERS • PREFABRICATED PIPING • UNIT HEATERS • PIPING SPECIALTIES

The money you can gain by using Accostrength® **Resin** is no illusion—the savings are substantial. You save by greater use of hardwood fibers. This resin increases the wet web strength —thus minimizing paper breaks in the wet end of the machine, reducing costly downtime. You save, too, because Accostrength improves the drainage on the wire, reduces steam requirements in the dryer—making higher production rates possible. Accostrength also lets you save through increased rosin size efficiency by reducing size usage up to 50% while still maintaining sizing specifications; or by producing a more highly sized sheet with the same amount of rosin size input you use now. Why not try the modern way to produce more paper, better paper, stronger paper—at lower cost with Cyanamid's Accostrength Resin. So call your Cyanamid salesman and get the facts.

CYANAMID

AMERICAN CYANAMID COMPANY • PAPER CHEMICALS DEPARTMENT • 30 Rockefeller Plaza, New York 20, N.Y.

What PCF Found by Optically Bleaching Market Soda and Sulphite Pulps

Pulps with 96-98 points brightness have been reported after bleaching chemically to at least 90-91 brightness. Furthermore, pre-dyeing the fibers eliminates some of the variables that fluorescent brighteners present in paper mill applications.

Herbert Freedman,
Research Director,
Penobscot Chemical Fibre Co.,
Old Town, Maine

One of the major selling points of market pulps is brightness. Despite multistage bleaching with a variety of compounds ranging from ordinary hypochlorites to "exotic" chemicals like chlorine dioxide and peroxides there remains a brightness ceiling beyond which pulp yields drop, physical properties undergo drastic change, and manufacturing costs skyrocket. Still the demand for ultra-white papers persists, and which in general can be accomplished by the following methods:

1. Chemical bleaching which solubilizes and removes the off-white components.

2. Adding a blue dyestuff to neutralize or compensate the off-white components. This results in an overall decrease of reflectance and merely transforms the yellow or brown tint into a grey one.

3. Adding a pigment whiter than the pulp tends to raise the whiteness of the furnish towards the whiteness of the pigment. However there are limitations to the amounts of pigment which can be added.

4. Adding an optical bleach or "fluorescent brightener." These materials are dyes which add reflectance. They function by absorbing ultraviolet rays and reemitting them primarily as blue light. In the sense that they compensate for the off-white quality of the pulp they perform like the blue dyestuffs. However, where blue dye decreases total reflectance, fluorescent brighteners increase the total visible light reflectance and thus whiteness is improved.

Penobscot, as a producer of market pulps, investigated the possibility of producing optically-bleached pulps and their potential worth. The products of these investigations have been designated as the "Glo-White" series.

As for their value to the papermaker, any benefits to be derived must be determined in the light of a particular operation. It may well be that in many cases pigment addition, blue dyestuff addition, or a whiter chemical pulp will supply the most effective answer to the problem—but for maximum whiteness none of these methods can approach the effects of optical dye on high brightness pulps.

As conventionally handled in the paper mill, fluorescent dyes are used in the beaters, at the size press, by coating on the machine, and by spraying or waterbox treatment at the calendar. There are a number of conditions which affect the efficiency of these treatments however. They are:

1. pH and Alum. Free acid and the presence of aluminum ions inhibit exhaustion of the optical bleach by lowering solubility and reacting to form non-fluorescent materials. (Recently pH-resistant brighteners have been developed which minimize this action).

2. Sizing. In general fluorescent dyes show greatest effect on unsized sheets as rosin size absorbs ultraviolet light and therefore has a nullifying effect on brighteners.

3. Fillers. Fillers have a dulling effect which appears to be directly related to their refractive index and covering properties.

4. Time for Exhaustion. Many brighteners require up to 40 minutes for maximum exhaustion and whitening effect.

5. Order of Addition. Order of addition to the furnish is *most* important . . . the most effective order being dye, filler, rosin, and alum. Failure to follow this sequence usually results in the brightener imparting a yellowing effect to the sheet.

6. Concentration. Concentration or amount of optical bleach used will affect whiteness to a degree, however beyond a certain point additional amounts do not increase the effect.

Incorporation of the brightener at the pulp mill eliminates some of these variables . . . for example, dwelltime, pH conditions, presence of alum, and order of addition. The dyes added substantively to the cellulose fiber at the pulp mill react differently to beater conditions than they do when added to the furnish as a separate material. One therefore would expect more economical reuse of white water containing alum and free acid, less foaming and better sizing since low pH can be tolerated, uniform distribution of optical bleach throughout the furnish, elimination of buffers for pH adjustment, and compatibility with acid and alkaline starches.

Optical bleaches are arbitrarily classified as dyes, and the new Food Additive Amendment has not been interpreted as covering them. They are, therefore, currently regarded as outside the present law although they may be covered by the pending Food Colorant bill.

Penobscot has performed numerous tests on the Glo-White pulps. In regard to physical characteristics of both soda and sulphite pulps, the addition of fluorescent brighteners was found to have no effect, beneficial or adverse. Some optical properties of the bleached pulps are shown in the following tables and graphs.

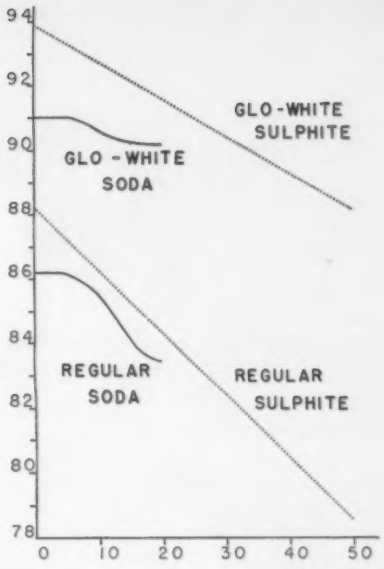
Sulphite and Soda Brightness

The addition of optical bleach to regular sulphite pulp increases brightness by as much as 3.5 points. This increase is maintained through an accelerated reversion test of 4 hours at 110°C. The solid lines in the figure at right illustrate how the brightness advantage is sustained throughout the beating cycle (in minutes).

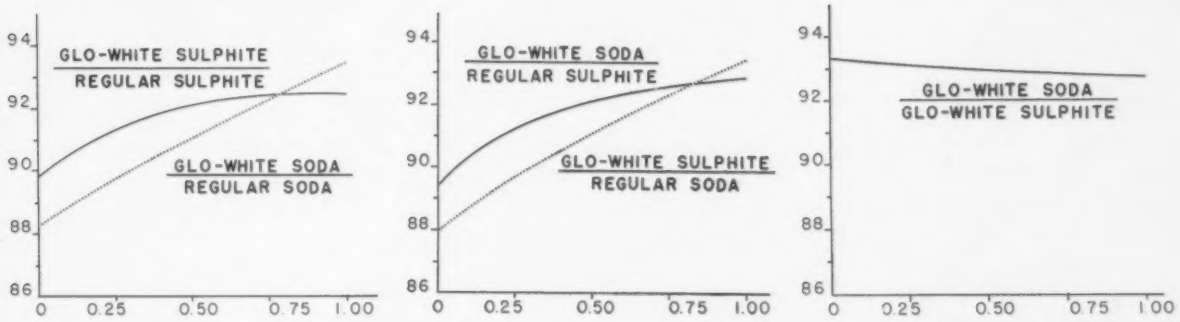
% Brightener	G.E.B.	G.E.B. after 4 hrs, 110°C.
0.00	90.2	78.3
0.05	91.2	77.3
0.10	92.9	78.6
0.15	93.6	80.9
0.20	93.8	81.7

Similarly the brightness of soda pulp was increased by as much as 2.5 points. The table shows these increases as well as the effects of 4 hours at 110°C. The dashed lines in figure at right point out that beating does not nullify the brightness gain.

% Brightener	G.E.B.	G.E.B. after 4 hrs, 110°C.
0.00	88.4	71.5
0.05	89.2	72.8
0.10	89.8	71.2
0.20	90.7	74.2



Combinations of Pulps vs. Brightness



These figures show the beneficial effects to be derived through use of varying amounts of Glo-White pulps in combination with regular pulps. The resultant brightnesses of sheets made by mixing Glo-White soda and Glo-White sulphite pulps in varying proportions are illustrated in the figure above right.

Opacity

Beating, mins.	0	5	10	15	20
G.E.B. Regular pulp	86.1	86.1	85.7	84.2	83.5
G.E.B. Glo-White	91.0	91.0	90.4	90.2	90.2
Opacity Regular pulp	91	90	88	88	87
Opacity Glo-White	91	90	89	88	88

The table above illustrates that opacity, an important soda pulp characteristic, does not suffer even though Glo-White brightness is considerably higher than the regular pulp used for comparison.

Reversion

Pulp	Original G.E.B.	Days in Bale	Final G.E.B.
Glo-White soda	91.1	54	89.9
Glo-White sulphite	94.1	34	92.1

Reversion tests were made by storing bales of Glo-White pulps and periodically boring samples for brightness tests. The results in the table at left show that stored pulps appear to have as much "visible whiteness" as when produced.

Alum and Low pH

The table below indicates that the presence of alum in low pH medium does not adversely affect the brightness of either the Glo-White sulphite or the Glo-White soda pulps.

	Treatment	pH	G.E.B.
Glo-White Sulphite:	—	8.1	93.4
	—	4.2	92.7
	0.5% Alum	4.2	93.9
	—	6.3	92.5
	—	4.7	92.7
	0.5% Alum	4.7	93.9
Glo-White Soda:	—	8.0	92.0
	—	4.5	92.4
	0.5% Alum	4.5	92.4
	—	6.5	91.8
	—	4.5	92.8
	0.5% Alum	4.5	92.7

Materials Handling—IV

Factors in Handling Common Pulp and Paper Mill Chemicals

Want to know the handling characteristics of a certain chemical? The factors in selecting a conveyor? Labor requirements?—Here are detailed data compiled by a well known authority.

D. S. Adams,
Manager, Materials Dept.,
Champion Paper & Fibre Co.,
Hamilton, Ohio

This paper is an attempt to accumulate in one place the basic information concerning the handling of paper mill chemicals.

The more common paper mill chemicals are listed with their physical properties and the usual methods of handling.

Also shown are approximate man hour per ton figures for handling by the methods listed. General information about conveyor selections is also considered.

Very generally the handling of paper mill chemicals breaks down into bulk and packaged. These two categories break down further into liquid and dry chemicals.

The accompanying tables tabulate the more common paper mill chemicals, their physical characteristics and handling considerations. These include weight per cubic foot, handling hazards and factors to be considered in handling method selection.

PAPER MILL CHEMICALS HANDLED *IN BULK*

DRY

Name	Physical Appearance	Wt. Per Cu. Ft.	Alternate Shipping Method	Handling Considerations	Type of Transporting Equipment	Handling Hazards
Alum	White Crystals	64 lbs.	Bags or liquid	Abrasive-contamination objectionable	Box cars Hopper cars	None
Coal	Black lumps or powder	40-60 lbs.		Often corrosive	Hopper cars	
Clay	White powder or lumps	35-70 lbs.	Bags & liquid slurry	Somewhat abrasive. May arch in storage. Sluggish if moisture content above 6%, adheres to metal.	Box cars Hopper cars Airslide cars	Respiratory hazard from dust. Clays flow like water & immersion in bin is a hazard.
Lime (quick)	White soft lumps	50-70 lbs.		Sometimes sluggish	Box cars	Skin irritant.
Limestone	White rock lumps-irr. 40-lbs. ea. and up	120 lbs.		Abrasive and dusty	Box cars Gondolas	None
Salt cake	Yellowish crystals	70-104 lbs.			Box cars	Corrosive, Hygroscopic
Starch	White granular powder	43 lbs.	Bags or liquid	Dust extremely explosive	Airslide cars Box cars	None
Soda Ash	Gray powder	50-80 lbs.		Caustic Dustless oper. essential		Hygroscopic, slightly corrosive; 85% air dry handles easily; if moisture, pasty.
Sulphur	Yellow, granular small lumps	84-90 lbs.	Liquid	Danger of ignition. Highly corrosive.	Box cars	Dust irritating to eyes and skin. Corrosive, Flammable.

Handling Bulk Chemicals

Obviously, whenever possible it is advisable to use gravity in the movement of bulk materials, whether they be dry or in liquid form. Aside from gravity flow, the simplest way to move bulk liquids is through pipes with pumps. The analogy to this in handling bulk dry chemicals is the pneumatic system. While pneumatic systems have many advantages, including flexibility of layout (since directional changes are not a problem), dust control, ability to handle materials that are somewhat corrosive or abrasive, its greatest drawback is the high h.p. per ton per hour required to operate these conveyors.

Where the pneumatic conveyor is not the answer there are many kinds of mechanical conveyors. These include belt, apron, en masse, flight, drag chain, vibrating, screw, zipper and air slide.

Handling of bulk chemicals is also performed with bulldozers and front end loaders of various sizes and capacities. Bulldozers are used mainly in the stockpiling of coal but front end loaders are used extensively for unloading bulk chemicals from box cars and digging from stock piles or storage bins.

Because front end loaders are usually built with special air filter equipment and bearing seals, they give longer service in chemical handling than standard fork equipment with bucket attachments. They also have superior digging action.

Following is a list of the various types of bulk handling conveyors showing selection factors and approximate power requirements.

Selection Factors	Power Requirements
APRON CONVEYOR	
1. For heavy loads and where mobile equipment must move over conveyor line in floor. Also can handle high temperature materials.	1. Not over 50 per cent efficient powerwise.
2. Dead load is high relative to live load.	2. Limestone conveyor 24 inches wide and 100 ft. long requires about 12 h.p. to handle 40 tons per hour.
3. Not suited to fine materials because of leakage between aprons.	
4. Speeds usually less than 100 f.p.m.	
5. Usually costs more per foot of length than drag chain or belt conveyor.	
6. Limestone is probably the only paper mill chemical for which the apron conveyor is practical.	
AIRSLIDE	
1. Useful for fine dry materials where introduction of low pressure air will change specific gravity and angle of repose of material causing it to flow down slight grades.	1. Power requirements low since only power is that required to drive fan.
2. Low maintenance cost since fan and motor are only moving parts.	
3. Can be used only where gradient is available between loading and discharge point.	
4. Soda ash, clay, lime, fillers and calcium carbonate are examples of paper mill chemicals that can be handled with airslide conveyors.	
BELT	
1. Flat and troughed belts are useful for most any kind of chemicals, either on the level or on inclines at fairly high speeds.	1. Economical power installations because of low dead load to live load ratio.
2. Available fixed or portable.	2. Example 1.5 h. p. required for 24 inches wide belt carrying 40 tons per hour for distance of 400 ft at 100 ft. per minute if material has a weight/cubic ft. of 40 pounds.
3. Steel, synthetic, rubber, canvas and cotton belts are available as required. Canvas cheapest — all right for dry, nonabrasive material and speeds up to 600 f.p.m. Rubber good for wet or corrosive materials, temperatures up to about 200°F. Steel belts for hot materials up to 750°F. Good alignment essential with steel.	
4. Metal belts are also available for high temperature materials up to about 900°F.	
5. Can be used for short or long distances as long as the points are in a straight line. Any change of direction must be accomplished by transfer points. Especially adapted to long distance movements.	
6. Properly designed belt with sealed bearing will outlast chain conveyor or bucket elevator for abrasive materials.	
7. Will handle practically all dry paper mill bulk chemicals.	
CABLE CONVEYOR	
1. Consists of steel cable 1 inch— 1½ inch diameter with buttons of various designs attached to cable.	1. Power requirements are high because dead load to live load ratio is high.
2. Speeds up to 600 f.p.m.	

Selection Factors	Power Requirements
CABLE CONVEYOR	
3. Horizontal curves are not possible.	
4. Very long conveyors are possible.	
5. Maintenance of buttons and trough usually expensive.	
6. In paper mills, used mainly for handling pulpwood.	
DRAG CHAIN & FLIGHT	
1. Used for materials where contamination or grinding action is not deleterious.	1. Power needed is relatively high because of friction which must be overcome.
2. Operate at speeds usually under 20 ft. per minute.	
3. Not suitable for abrasive materials.	
4. Can operate on horizontal or inclines but only in straight lines.	
5. Used mainly in paper industry for coal and ashes.	
EN MASSE	
1. Enclosed conveyor where movement in mass is induced by pulling frame through enclosed material.	1. Requires more power than a flight conveyor.
2. Used for dusty materials of small lump size.	2. 15 h.p, for 40 T/hour, 40 lb./cu. ft. material on horizontal with 7 inch conveyor.
3. Self loading to capacity and does not overflow.	
4. Not adaptable to highly abrasive or fragile materials.	
5. Not adaptable to sticky materials.	
6. Used for horizontal and vertical movement.	
7. Cannot be completely cleaned at end of run, therefore not used for materials that spoil.	
8. Original cost is moderate because case is also structural member.	
9. Difficult to maintain.	
10. Used for chip handling. Can be used for clay, casein, starch and salt cake.	
PNEUMATIC	
1. Highly flexible as to capacity and route design.	1. High power requirements. Depending on material this might range from 4 to 7½ h.p. per ton per hour.
2. System is clean. Confines dust and toxic materials.	
3. Vacuum and pressure systems are used. Vacuum systems are confined to short distances usually up to 100 feet.	

Selection Factors	Power Requirements
PNEUMATIC	
4. Types of materials to be handled have to be studied unless previously handled. Packing, disintegration and abrasion are some of the factors that may have to be designed out.	
5. Can handle clay, lime, starch, fillers, salt cake and soda ash.	
SCREW	
1. Can operate horizontal or vertical.	1. 7.5 h.p. required for 100 foot long conveyor handling.
2. Used for small lump, fines or semi-liquid materials.	2. Ratio of dead load to live load high.
3. Can handle fairly abrasive materials if special alloys are used for screw and trough.	
4. Usually low speed operation compared with belt or pneumatic conveyors.	
5. Limited to straight line operation and usually confined to short distances.	
6. Especially adapted to feeding operations where feed at fixed rate is desired.	
7. Also can be used as in transit mixer.	
8. Length limited by torque capacity of screw, shaft and couplings.	
9. Will handle alum, hydrated lime, lump lime, salt, clay, sulphur and soda ash.	
VIBRATING	
1. Smooth trough on slight incline vibrated at high speed. Fine granular materials flow down trough.	
2. Minimum segregation of particle size.	
3. Minimum particle breakage.	
4. Speeds up to 50 f.p.m.	
5. Low initial cost.	
ZIPPER	
1. For handling dusty, hazardous materials completely enclosed.	
2. For materials requiring extremely gentle handling or prevention of contamination.	
3. Highly flexible travel patterns. Can change paths in either the horizontal or vertical direction.	
4. Speeds up to 200 f.p.m.	
5. Not practical for temperatures over 175 F.	
6. Four inch belt carries 0.08 cubic feet of material per foot of belt.	

PAPER MILL CHEMICALS HANDLED *IN BULK*

LIQUID OR GAS

Name	Physical Appearance	Alternate Shipping Method	Type of Transporting Equipment	Handling Hazards
Alum	Almost clear liquid	Dry bagged or bulk		Lead pumps & lines. Lead lined storage tanks are necessary.
Ammonia (anydrous)	Pungent, colorless gas	Cylinders	Tank cars	Skin burns, respiratory irritation. Protective equipment necessary.
Aqua ammonia	Colorless liquid	Carboys or drums	Tank cars	Skin burns.
Chlorine	Greenish gas Yellow liquid	Cylinders	Tank cars	Extremely toxic—special gas masks necessary.
Clay	White milky liquid	Dry bulk Dry bagged		
Hydrochloric Acid	Pungent, Colorless liquid	Carboys	Tank Trucks Tank Cars	Fumes are corrosive and irritating. Avoid contact with skin or eyes.
Latex	White milky liquid	Drums	Tank cars	Protections from freezing.
Rosin size	Yellow, thick liquid		Tank cars	none
Starch	White liquid	Dry bulk or bagged	Tank cars	none
Sulphur Dioxide	Colorless gas or liquid	Cylinders	Tank cars	none
Sulphur	Yellow, thick liquid	Dry bulk		none
Sulphuric Acid	Brown oily liquid	Drums	Tank cars	Highly corrosive. Burns skin severely. Protective equipment necessary.

Handling Packaged Chemicals

The handling of packaged chemicals may be broken down as follows:

I. Dry

- A. Bagged (Usually 50 or 100 pound units)
- B. Fibre Drums
- C. Special Containerization Units
  - a. Returnable metal
  - b. Rubber returnable
  - c. Disposable (corrugated fibre)

II. Liquid

- A. Metal Drums
- B. Plastic Drums or Carboys
- C. Glass Carboys
- D. Plastic-lined Fiber Containers
- E. Special Containerization Units
  - a. Metal
  - b. Rubber

Bagged Chemicals

Palletization of bagged chemicals prior to shipment is now fairly standard in the industry. The single chipboard sheet with a scored edge to allow entry of truck forks has captured the field because of its low cost. Initial, freight, and maintenance costs of wood pallets make them impractical. Even the disposable paper pallet costs three to four times the cost of the single sheet type. Loads are glued onto the sheets and successive layers of bags are glued to each other to form a unit load.

A fork truck equipped with fully tapered and polished forks should be used to remove the loads from the carrier. Waxing the forks is also helpful in getting under the load. When taken from the carrier the loads are usually dropped on some type of warehouse pallet for storage to allow the loads to be piled more than one unit high.

Bags which have been passed between rollers to flatten them make the best loads of this type.

The major exception to this method of handling in the paper industry is bagged casein. This is handled in cloth bags weighing 110 pounds each. These bags are piled on the floor of the carrier at the port of entry. Man-handling at paper mills all over the country is expensive. This problem, if attacked on an industry wide basis, could save hundreds of thousands of dollars a year to the industry in handling costs and material loss.

Metal or Fiber Drums

Drums are usually received loose in the carrier. At the mill they may be palletized or handled with fork trucks with special drum handling attachments. These units handle one, two or four drums at a time.

Storage of drums on the side in specially designed racks or on end on pallets will allow advantage to be taken of "air rights" in drum storage.

Special Containers

Many types of high volume special containers are available made of metal or rubber. For some chemicals special bulk disposable containers are used.

Advantages of these containers are:

1. Purchase price of chemical is usually lower because of saving in packaging costs.

2. Handling costs are reduced because of handling larger unit loads.

3. Chemicals are stored in water and contamination proof containers. Units can be stored outdoors. This saves inside plant storage space or construction of bulk bins or silos.

4. Waste is reduced from broken packages as compared with bagged chemicals.

Disadvantages are:

1. Purchase price of bulk material may not be as low as straight bulk shipments.

2. Inventory, handling and freight costs on containers.

Carboys

Carboys are used mainly for handling acids which cannot be kept in metal containers because of highly corrosive nature. Carboys of glass or plastic are available with plastic pretty well displacing glass because

PAPER MILL CHEMICALS HANDLED *PACKAGED*

DRY

Name	Physical Appearance	Alternate Shipping Method	Common Pkg. Sizes	Handling Hazards
Alum	White Powder	Bulk Dry or Liquid	Bags 100#	None
Calcium Carbonate	White Powder		Bags 100#	
Casein	Yellowish granular Powder		Burlap Bags 110#	None
Clay	White powder or lumps	Bulk	Bags 50#, 80#, 100#	None in bags
Diatamaceous Earth	Gray powder		Bags 50#	
Lime (Hydrated)	White powder		Bags 100#	None
Protein, Alpha	Light yellow granules		Bags 50#, 100#	None
Rosin, gum	Yellow, brittle solid		Bags Fibre drums Metal drums	None
Satin White	White amorphous solid		Bags 50#, 100#	None
Soda Ash	White powder	Bulk	Bags 100# Barrels 400#	Dust is respiratory irritant.
Starch	White granular powder	Bulk	Bags 100#	None
Titanium Dioxide	White powder		Bags 100#	None

of the breakage factor in glass carboys.

Carboys of either type can be palletized and stacked by using a load carrying collar to protect the neck of the carboy.

Advantages are:

1. Flexibility of purchase quantity in low usage operations.

Disadvantages are:

1. High cost handling.

2. Dangerous in transfer from carboy to operations.

Plastic Lined Fiber Containers

These are used for handling and storage of thick, viscous liquid chemicals. They may be palletized or are available with corrugated leg pallet or single sheet pallet incorporated into package design.

Advantages are:

1. Less expensive to purchase than drums.

2. Easier to handle and store than drums.

3. Square design usually fills carriers and storage areas more efficiently.

4. Elimination of handling on return to supplier of drums.

Disadvantages:

1. Any penetration of plastic liner by forks or other sharp object will result in disintegration of corrugated container and loss of contents.

PAPER MILL CHEMICALS HANDLED *PACKAGED*

LIQUID OR PASTE

Name	Physical Appearance	Alternate Shipping Method	Common Pkg. Size	Handling Hazards
Aqua ammonia	Colorless Liquid	Bulk	Carboy Drums	Skin burn
Formaldehyde	Pungent, colorless liquid		Carboy Drums	Skin irritant. Fumes are respiratory irritant
Hydrochloric Acid	Pungent, colorless liquid	Bulk	128# Carboys	Fumes are corrosive & irritating. Avoid contact with skin or eyes
Latex	White milky liquid	Bulk	Drums	Protection from freezing

Representative Unloading Labor

I. Bulk Chemicals

A. Dry

	Man-hours/Ton
1. Gravity	0.10
2. Mechanical Conveyors	0.20-0.25
3. Pneumatic Conveyors	0.15-0.20
4. Front end loaders	
a. Clay	0.10
b. Limestone	0.20-0.40
c. Sulphur & Lime	0.25
5. Hand Unloading—Buggies	
a. Limestone	0.75-1.00
b. Lime	0.75-1.00

B. Liquid

1. Gravity	0.10
2. Pumped	0.20

II. Packaged Chemicals

A. Dry

	Man-hours/Ton
1. Bags	
100# Palletized	0.50
Unpalletized	1.00-1.10
50# Palletized	0.50
Unpalletized	1.20-1.30
110# (Casein)	1.35
2. Fibre Drums	0.50
3. Special Large Volume Containers	0.30

B. Liquid

1. Metal Drums	0.50
2. Plastic Lined Containers	0.55
3. Carboys	
Singly	1.35
Palletized	0.65
4. Plastic Lined Fibre Drums	0.50
5. Special Large Volume Containers	0.30
Chlorine and SO_2 2000# Cylinders	

Classic tales by a veteran papermaker—positively never found in a textbook:

Ye Compleat Papermaker—or

99 New Ways to Break Down a Sheet of Paper

I have often suspected that paper machines are somehow superior to the combined laws of chemistry, physics, hydraulics and common sense. Things that will break a sheet of paper are being invented daily in mills all over the country. Using a formula which I am not yet ready to publish I calculate that by 1980 there will be three billion things that can cause a paper break on the dryers.

One classic I saw a few years ago in an older mill which did not have a hood over the dryers. An exceptionally stupid pigeon found its way into the machine room and of course started flying up and down over the dryers. The hot vapors soon began to take their toll and as the machine crew watched in horrified fascination the bird flew lower and slower. Finally the death plunge occurred, right through the sheet between dryers 67 and 68.

The screen boy on our cylinder machine just invented a new one today. While taking a pH sample out of the vats he managed to hit the sheet with the little dipper. The sheet made it to dryer 38.

I would someday like to make a high fidelity stereophonic recording of all the bells, gongs, sirens and whistles that paper mills use to announce a paper break. One mill in the west averaging about ten breaks a day was so noisy that the only thing they found which would penetrate the din was a huge air whistle. I have seen the plant manager sitting in his office a good 700 feet from the wet end lifted three feet off his chair when that whistle went off.

It is also sometimes amazing what a sheet of paper will stand without breaking. Running a cylinder sheet a few years ago we had a belt come off a dryer section on a Saturday afternoon. The paper kept right on pulling the dryers for eight hours. Of course at 2 A.M. we had a paper break from another cause, and we found it a little hard to thread the dryer section that was standing still.

I also used to have an old tour foreman who swore up and down he once ran a sheet so heavy and strong that you could step on it without breaking it.

If you ever want to do a double take, walk in on a machine where the prime mover has stopped. Everything looks normal; the sheet is on clear from the wet end to the reel. First the silence hits you, and then you realize the thing isn't moving.

A new brokeman handling hay out from under the dryers is always good for a few breaks. By some remarkable training process the rest of the machine crew always break the newcomer of the habit of hitting the sheet within about two days. If educators could find the secret, college time could easily be cut in half.

The next installment will be entitled "Felts I Have Known" or "Put That Knife Away, Son, We're Gonna Run It Another Week."

► *Have you had some unusual experience in pulp or paper making? If you have, let us know. We will publish (anonymously if you wish) your pearls of wisdom, and pay for them too!*

"Talk about your pressure head boxes!"

Industry Leaders Look to Potential Technical Men at Univ. of Maine

Accent was on youth at the 10th annual Open House Research Days program held at the University of Maine April 28-29 under the sponsorship of the University of Maine Pulp and Paper Foundation. Over 240 representatives of leading pulp and paper and allied companies attended the program which included: Three papers given by selected students who described the results of their research; 14 student demonstrations of current research projects in the area of pulp and paper technology; "Meet the Seniors" where the dean of the College of Technology introduced and gave a brief statement about each of the men; an industry-student panel which discussed "The Utilization of Technical Manpower" over which Professor Lyle C. Jenness, head of the department of chemical engineering presided; the entertaining of twenty-five high school students for whom a special program has been arranged. Each pulp and paper company which is a member of the Foundation was invited to bring one or two leading high school juniors or seniors to be guests of the Foundation. This idea was tried on a limited scale last year when eight mills selected 16 high school boys to attend the program. Eleven of the 16 are reported to be now enrolled at the University this year.

A luncheon meeting on Friday heard Fred Herbolzheimer, Jr., vice president of manufacturing, Thilmany Pulp & Paper Co., deliver the principal address. Mr. Herbolzheimer reviewed the paper industry in relation to other segments of the American economy and noted that it has been one of the leaders in rate of growth as well as total size. "We have recognized that all segments of the paper industry have been maturing rapidly during the past thirty years and there is a need for the aggressive young man with a logical and disciplined approach to his work . . . and nowhere have I found a public institution that possesses this deep understanding of the paper industry."

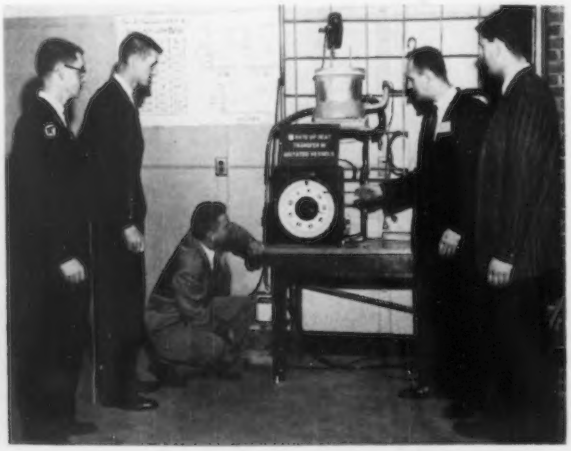
Need For Training

Lloyd N. Elliot, president of the university followed with his comments noting that in the next decade 26 million new employees would be added to the manpower rolls. "There is need for these men to receive the best possible training, since those with little education are the ones who will be in the relief rolls." William H. Chisholm, president of Oxford Paper Co., presided over the luncheon.

Industry members of the afternoon panel session included: Mr. Hertolzheimer; J. H. Heuer, vice president, Great Northern Paper; Harold Annis, vice president, Oxford Paper; R. C. Masterman, manager, Northern Division, International Paper; E. Reed, president, Albany Felt; W. D. Thompson, Hercules Powder Co.; and P. J. Brockway, placement director at the University. During the discussion, Mr. Brockway made an interesting comment on starting salaries. He said that this year's average of graduating students in the pulp and paper field will be $565 to $570 per month. However, he did not distinguish as to whether this was the average for advanced degree students and fifth year graduates, or if it also included the four-year B.S. graduates.

Of the three student papers presented in the morning session, the one read by Eugene H. Arsenault (in collaboration with Alan W. Charles) on "Effects of Chip Damage on Pulp Strength" was adjudged the best by ballot vote of the audience. Mr. Arsenault's results generally confirmed

HEAT TRANSFER IN AGITATED VESSELS: F. Liberty; H. Packard, GNPC; R. Hill; J. A. Marceau and C. W. Emerson, demonstrators.



COMPUTER APPLICATIONS: F. Zichelle; R. P. Lebrecque, student; P. J. Delecto, demonstrator.

previous studies, but found, instead, that frozen chips produced increased pulp strengths. He cautioned, however, that this may have been an anomaly of this one experiment, and added that certainly more studies should be conducted in this direction.

The paper winning second place told about "Pulping of Hardwood (Beech) with Nitric Acid." The authors, Frederick L. Kurrle and Richard O. Thompson, reported that screened yields ranging 18.5 to 37.5 per cent were obtained in seven varied cooks. Recovery of liquor appears to be possible, they noted.

The third paper discussed the flow of water in standard pipe fittings.

HEAD TABLE, LUNCHEON: W. W. Tomlinson, Temple University; J. L. Ober, Foundation president; L. H. Elliot, U. M. president; W. H. Chisholm, Oxford Paper; F. Herbolzheimer, Thilmany P. & P.; F. C. Soderberg, F. C. Huyck & Sons; R. A. Wilkens, Bird & Son.

14 Other Projects

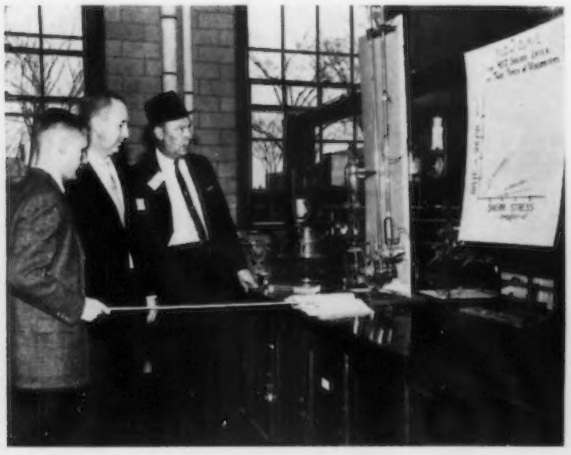
Other laboratory demonstrations were as follows:

"The Effect of Starch Viscosity on Tub Sizing" by Norman B. Callahan and Jules W. Homans; **"The Effect of Stock Consistency on Rosin Sizing"** by Eric J. Krapovicky; **"Design and Construction of a Horizontal Size Press"** with Richard D. Violette and Raymond F. Vachon; **"Flow of Pulp Stock in Open Channels"** shown by Paul S. Barnett and Walter R. Heal; **"A Unique Flow Device"** by Thomas J. Soychak; **"Rate of Heat Transfer in Agitated Vessels"** with Charles W. Emerson and Joseph A. Marceau; **"The Effect of Basis Weight Variation on Accuracy of Physical Test Results"** by Melvin Lessard.

"A Correlation Between Capillary and Rotational Viscometers" by Theodore R. Stevens; **"Effect of Additives on Paper Coating Rheology"** with Robert S. Sterritt and Charles F. Stubbert; **"Evaluation of Printability Using a Proof Press"** by Michael J. Lesko; **"The Roll Inclined Plane as an Instrument for Studying Paper Coating Color Behaviour"** Gilman D. Horn; **"Recovery of Ammonia from Waste Ammonia from Waste Ammonium Bisulfite Liquor"** with Edwin C. Carlstrom and Charles A. Trumbull; **"Analog Computer Application"** by Paul J. Delekto; **"Color Photomicrographs of Paper Fibers"** by Stanley A. Lewis.

The speaker for the dinner meeting held at the Pilot's Grill Friday was Dr. William W. Tomlinson, vice president of Temple University. J. L. Ober, retired vice president, Scott Paper Co. and president of the Foundation presided at this evening's session. Dr. Tomlinson spoke of his travels overseas and reminded his audience, "we must forge ahead scientifically, industrially, and educationally. But if we are to be victorious over the challenges of our age, America's historic mission of concern for the hearts and minds of men must shine so brightly that the world will follow confidently and withhold acclaim its hopeful light of leadership."

Dean Weston S. Evans of the university's College of Technology was chairman of the committee on arrangements. The other members of the committee are Professor Lyle C. Jenness, Professor Clayton T. Bockus, and Professor Robert C. Chase, all of the chemical engineering-pulp and paper department, and Charles E. Crossland, executive secretary of the Pulp and Paper Foundation.



CAPILLARY VS. ROTATIONAL VISCOMETERS: T. R. Stevens, demonstrator; C. W. Churchill, Rust Engineering; B. Weetman, Texaco.

PROOF PRESS PRINTABILITY: A. E. Wylde, U. of M.; M. G. Lesko; M. J. Lesko, demonstrator; C. Patch, retired.

What You Should Know About The Care And Use of Magazine Grinders—II

- **Installing Governors**
- **Troubles That May Occur**
- **Control Stands**
- **Changing Pulpstones**

This is a continuation, and final installment of the article on the maintenance and operation of Great Northern-Waterous and Super Magazine grinders which began in the previous issue. The author, F. D. Hartley, of Koehring-Waterous, Ltd., got as far as the wattmeter governor's magnetic pilot valve. He continues his discussion below by relating the troubles that may occur with a governor after it is installed.

Installing Governors

A bypass must be installed around the main valve in order to facilitate repairs, adjustments, etc. Also, a ¾-inch bleeder should be tapped into the piping as close to the discharge on the main valve as convenient with a ¾-inch valve to adjust the amount of bleeding. This bleeder has a threefold use. When new equipment is first installed there will be very little leakage past the lip packings on the pistons of the grinder cylinders or at the reversing valves, etc., so the governor valve will operate close to its closed position, and it will tend to be more stable if some water is bled off, thus causing it to open wider and work in a better range. Also under single stone operation it is advisable to bleed. When the equipment grows older and leakage appears, the bleeding can be lessened.

Thirdly, with an open bleeder the piston of the main valve can be made to move up and down for adjustment purposes when the mill is shut down, provided the water supply is on, and the wattmeter contacts are energized and operated by hand. When the grinders are shut down the piston will not move up and down with the piping on the discharge side of the main valve drum tight, as the water above the piston has no place to go.

Do the wiring according to the prints furnished with the equipment. Make sure that the proper phase relation from the transformers to the governors is used. Provide a 110 volt d. c. supply for the control of each governor. The conduit with this supply as well as the conduit with the potential and current supplies are intended to be brought into the base of the governor.

Be sure to open up the piping ahead of the governor and wash out thoroughly before running any water through the governor. Cuttings and grit may cause wear in a short time. Absence of grit and use of clean water means long life. After the piping has been washed out by allowing a good volume of water to flow through it, the piping should be reconnected.

Make sure that all parts are in place and working properly. Fill the dashpot on the rear of the Kelvin balance with transformer oil. Attach the fan to the rear of the voltage element so as to swing freely in its dashpot. Operation will prove whether the dashpot is actually required.

Before putting the governor in actual service, a few tests may be made to see that all parts are working properly. Close the main d.c. switch. Open the main supply valve to the governor, also the control supply, then swing the moving element of the Kelvin balance to the right, and the main valve should rise. To lower the movement, at least a small amount of water must be moving through the valve, and some pressure must be present on the discharge side, as it is this pressure (grinding pressure) which closes the main valve. This condition can be met by bleeding the discharge line at some point through a valve. After this it should be possible to move the valve up and down at will by swinging the

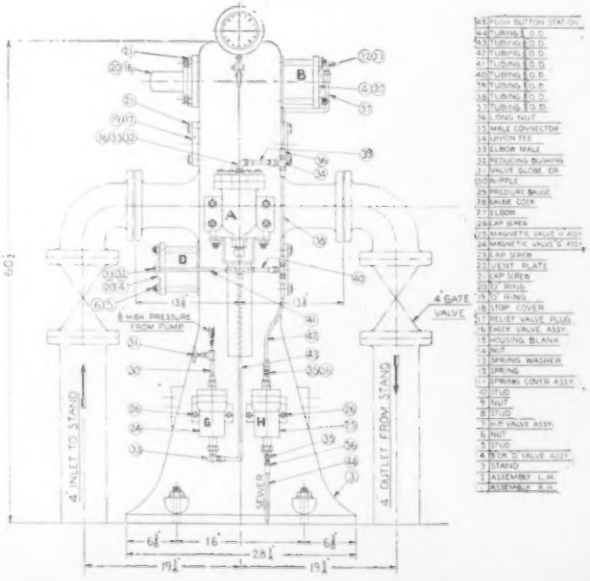


FIGURE 11: "T" TYPE CONTROL STAND

moving contact from side to side.

Air in the pipes or cylinder may cause erratic action for a few minutes, and this is the chief reason for swinging the meter contact by hand for a minute or so.

In starting up: 1. Phase out the indicating or graphic meter on top of the governor first. Short the current element on one side of this meter, and note how the pointer registers. If it is reversed it may be made to read correctly by interchanging the voltage leads on the particular element in circuit. Proceed in the same manner to phase out the other element. When this top meter has been properly connected it may be used to phase out the Kelvin balance on the governing meter.

2. To phase out the Kelvin balance, short both its current elements and turn the load adjusting knob till the moving contact floats. Then take the short off one element, and if it is connected properly, the contact will swing to the left. If the direction is to the right, interchange the current leads. Now short this element out again, and proceed with the other element in a like manner. If the Kelvin balance is in correct phase relation, its swinging contact will move to the left. Note this point well as the pointer on most meters moves to the right. Increase of load always moves the swinging contact to the left.

Never open the current circuit when it is alive—always short the transformer terminals first.

3. After both meters are phased out, note the particular reading on the top meter. Say, for illustration, it indicates a load of 2000 k. w. By turning the load adjusting knob, float the swinging contact at this load. This will be the particular point at which the governor will carry the load.

4. The governor can now be put into service. After the above points have been noted, close the main switch, open the valve on the right hand side of the main governor valve fully. Gradually open the left hand valve letting some water flow through the governor valve. Continue this until the by-pass is entirely closed and the left hand valve fully open, which will cause the governor to come into action and hold the load steady at 2000 k.w. By the use of the load adjusting knob this load may now be raised or lowered at will within the working range of the grinders.

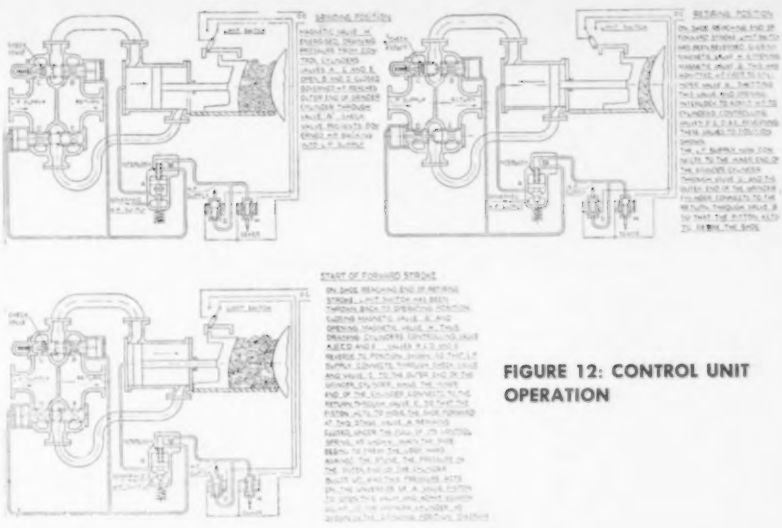


FIGURE 12: CONTROL UNIT OPERATION

Troubles That May Occur

Experience has proven that one of the most common troubles with new installations is wrong meter or transformer connections, so it is well to check up on this point carefully.

Another common trouble is dirt under the ball of the solenoid valves. Dirt under the ball of either inlet or outlet valves will cause erratic governing and will be manifested also by a continuous flow of water from the outlet of the right hand or discharge pilot valve. When such a continuous flow of water is seen, if the swinging contact is contacting to the left, it will indicate that the trouble is in the inlet valve. If it is contacting to the right the trouble will be in the outlet pilot valve. To cure this trouble, open the pipe connection at the bottom of the particular pilot valve at fault, and then unscrew the valve seat itself. The plunger, ball and bronze separator can now be lowered for inspection and cleaning. During the first few days of operating this might be a frequent occurrence.

The contacts in the meter should be inspected once a week for wear, and adjustments and cleaning done when necessary. Contacts used are ⅛-inch dia., 9/16-inch molybdenum rod.

"T" CONTROL STAND

For sectional assembly of control stand, see Figure 11. For a schematic diagram of its operation, see Figure 12.

Beginning at position of valves during grinding operation, when the pressure cylinder on the grinder is getting its water supply through the "A" valve, as the pressure foot advances towards the end of the stroke it actuates a limit switch which opens magnetic valve "G" and closes "H". This provides control water to reverse the hydraulic valves which reverses the cylinder to take a new charge of wood in front of the pressure shoe. This is done by opening valve "D" admitting water to the inner end of the cylinder, and opens valve "B" to exhaust water from the outer end of the cylinder. When the shoe reaches the end of its set stroke, it actuates the second limit switch which opens magnetic valve "H" and closes "G." The hydraulic valves "B" "C" "D" and "E" then move to the grinding position, allowing the pressure shoe to advance on low pressure water to gather up the wood in front of the pressure shoe.

As the wood is gathered up, gradually offering higher resistance, and causing the pressure to rise in the cylinder which acts on the piston of the "A" valve, opening it and admitting governed high pressure water to the main cylinder which starts the grinding operation.

Each control stand is provided with a relay which is located in the governor panel for easy wiring. The purpose of the relays is to control the timing of the operation of the control stands so that one control stand out of the four only can operate at a given time, thus allowing the load dropped by one cylinder to be distributed over the remaining three cylinders which are in operation.

The control stand is so constructed and the valves and their operation so arranged, that they smooth out the load changes, doing away with any sudden change, providing at once a substantial and care free control.

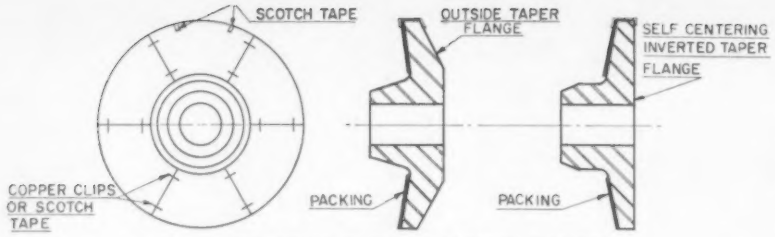


FIGURE 13: USING PACKING AROUND FLANGES

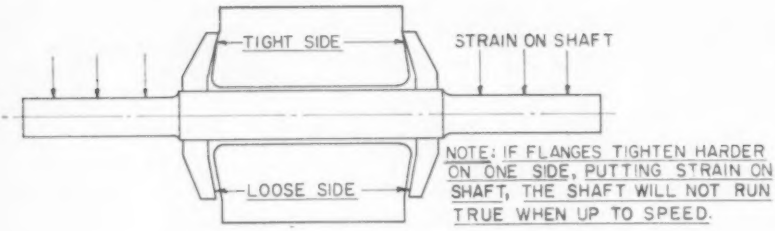

TIGHT SIDE
STRAIN ON SHAFT
LOOSE SIDE
NOTE: IF FLANGES TIGHTEN HARDER ON ONE SIDE, PUTTING STRAIN ON SHAFT, THE SHAFT WILL NOT RUN TRUE WHEN UP TO SPEED.

FIGURE 14: MOUNTING STONE ON SHAFT

CHANGING STONES

The correct mounting of a stone on the shaft is very important to ensure the best operation of the grinder, and every precaution should be taken. A poorly mounted stone can be a source of trouble throughout its life, which may be for some years.

The following notes are merely suggestions intended to bring out points which are sometimes overlooked. The actual work may be accomplished in various ways.

1. The stone manufacturer is careful to have both ends of the stone parallel with each other. This is the first essential for correct mounting.

2. The type of packing used between the stone and the flanges varies, and these may be listed as follows: plywood, hard wallboard, insulating board, cement grout, sulphur grout.

3. If one of the boards listed above is being used, sections should be cut to fit the inside taper face of the flange. This will likely be done as shown in Figure 13. The sections after being cut should be held together with copper clips or scotch tape, as shown on the sketch. This will form a ring of packing covering the face of the flange which goes against the stone, and this should be attached centrally to the flange. This is important, for should the packing drop down when the flange is being mounted, it will introduce a condition where the flange will not tighten up evenly all around.

4. If the standard outside taper flange is used, put the shaft in the stone while the stone is standing on the floor. Center the shaft in the stone by the use of adjusting screws which are located in the bore of the stone. After the shaft has been centered with the periphery of the stone, and also having it project equally at both ends in reference to the thread for the flanges, lubricate the threads of the shaft well with a good hydraulic grease to which has been added some aluminum powder. Then put the flanges in place on the shaft and screw them up until they touch the stone. They should touch the stone equally all around. This is the reason for holding the packing in correct position, as it is essential that the flanges do not tighten up on one side harder than the other. If they do, it puts the shaft under strain so that when it is running up to speed it will not run true. See Figure 14.

5. Lift the stone and shaft into the stone lathe or bearings. (See Figure 15. This illustrates standard equipment used at present.) Put the tightening arm in place on the end of the shaft. Lock the flanges so that they are held in rigid position, and with chain block or crane attached to the arm tighten the flanges on the stone by turning the shaft.

6. The stone is now ready to put into the grinder and trued up. If it has been well mounted, a few passes of a diamond point burr should be enough to make it ready for the usual spiral sharpening burr.

7. If cement grout is to be used to mount the stone, any unevenness that may occur is compensated for by the grout. If the mounting is properly done a true mounting, with respect to even pressure of flanges against the stone, should result.

The procedure is as follows: First, some means must be used to prevent the grout from running into the center of the stone. This can be done by the use of some 3/8-inch square packing held on the stone with scotch tape. See Figure 15. The flange is then screwed up until it squeezes the packing tightly between the flange and the stone. Both flanges should be put on in this way. A rope is then put around the outside of the flange and fastened over a timber put across the top of the stone. The grout is then poured in. It should be thin enough to run down the 3/8-inch space and should be about a 3:1 mixture.

If standard cement is used there will be considerable shrinkage, and the space must be kept filled up until cement is set. Some operators tighten up the flanges by turning shaft to bring the cement to the top. This method should not be followed after the cement begins to set as it means the flanges will tighten harder on the bottom, putting a strain on the shaft, as described under item (4). If non-shrink cement such as

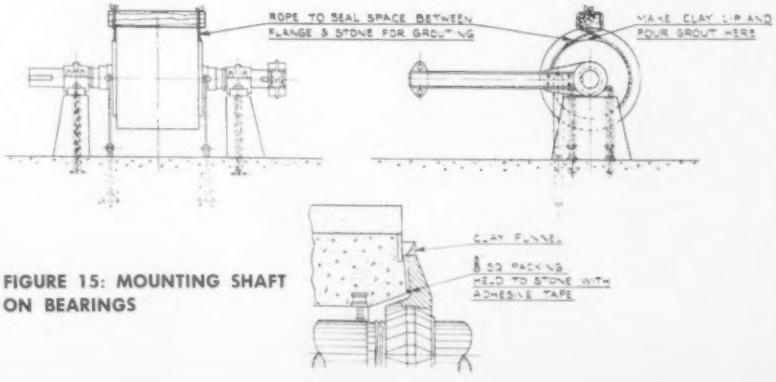

ROPE TO SEAL SPACE BETWEEN FLANGE & STONE FOR GROUTING
MAKE CLAY LIP AND POUR GROUT HERE
CLAY FUNNEL
3/8 SQ PACKING HELD TO STONE WITH ADHESIVE TAPE

FIGURE 15: MOUNTING SHAFT ON BEARINGS

"Embeco" is used, this trouble will be avoided.

8. Grouting with sulphur. This method is described and illustrated in the article on the maintenance of pulpstones, No. 9 in the series, and appearing in the February 22, 1960, issue of PAPER TRADE JOURNAL.

Stone Flanges

The new type of stone flange, which is known as the inverted taper self-centering flange, is now in use. This is shown in Figure 16. The purpose of this is to get clearance at each end of the stone so that the pulp can flow more easily. This gives us 4¼ inches clearance between the flange and the side frame instead of ¾ inch as formerly with the outside taper flange. It also allows us to make the flange 51 inches in diameter instead of 45 inches as formerly.

The standard outside taper flange which has always been used was designed in the days when natural stones were used. These stones frequently developed cracks and the outside taper flange had the advantage of holding the pieces together so that they would not fly out and break the machine. This precaution is not necessary with the artificial stones, which are now used 100 per cent in this type of grinder. One disadvantage of the outside taper is that some of the stock coming over the top of the stone will fall on the flange, and be thrown off by centrifugal force, throwing the water out of it and causing the stock to be at a higher consistency at the edge of the stone than at the center where the stock is flowing freely. This in turn causes a higher temperature at the edges of the stone than at the center, which is not good for the life of the stone.

If a consistency of 2 or 2½ per cent is carried, as formerly recommended, this will largely be avoided.

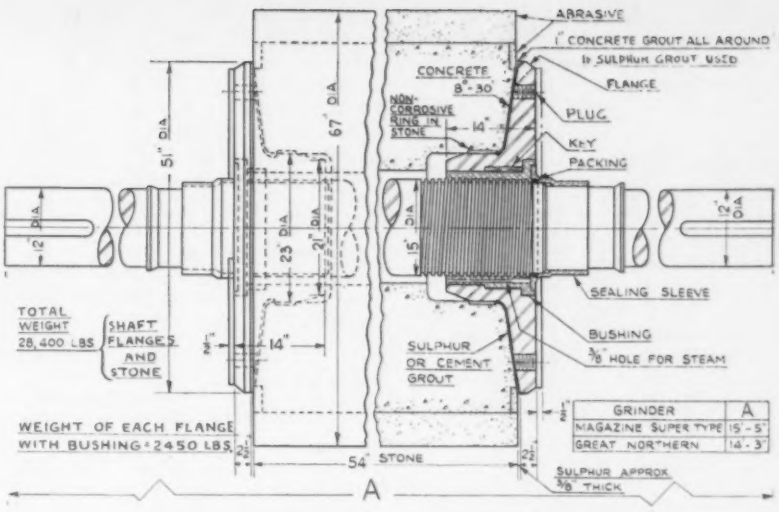


FIGURE 16: SELF-CENTERING INVERTED TAPER FLANGE

The new flange has a distinct advantage, and the stock gets away much better. We would recommend that when new stones and flanges are required, consideration be given to this type. The same shaft can be used by chasing the thread up a little further.

The use of the patented self-centering flanges offers several advantages in mounting and demounting stones.

1. It avoids the use of adjusting screws and saves the time formerly consumed in centering the stone.

2. When using grout (either cement or sulphur) there is no need to pack the flange hubs to prevent grout getting into the center of the stone.

3. The stones are in better balance as the flanges are machined all over.

4. Stones will not shift out of true when in operation.

Fit Allowances in Manufacturing

Of necessity there are certain fit allowances in the manufacture of the stone and also the shaft and flanges. The stone is turned on a mandral or shaft which has a fit allowance in the stone of .028 to .032 inches. See Figure 17. The threads on the shaft and flanges also have a fit allowance amounting to a maximum of .012 inch. The sealing sleeve which attaches to the flanges has a fit allowance of .008 inches maximum.

The procedure in mounting stones in view of tolerance fit is as follows:

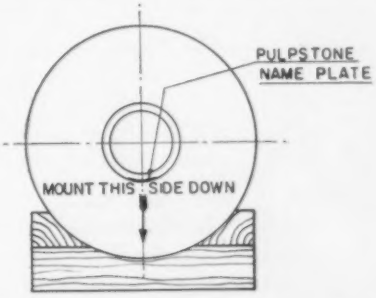


FIGURE 18: MOUNTING POSITION OF STONE

1. The stone is shipped in a cradle of timbers. You will notice the stone has an arrow and a name plate, both of which are on the bottom or floor side (Figure 18). Leave the stone in this position, and put the shaft in place. Before assembling the flanges give the threads a liberal coat of hydraulic grease such as Gredag 9. Also, grease the centering ring in the stone. (It is maintained by some

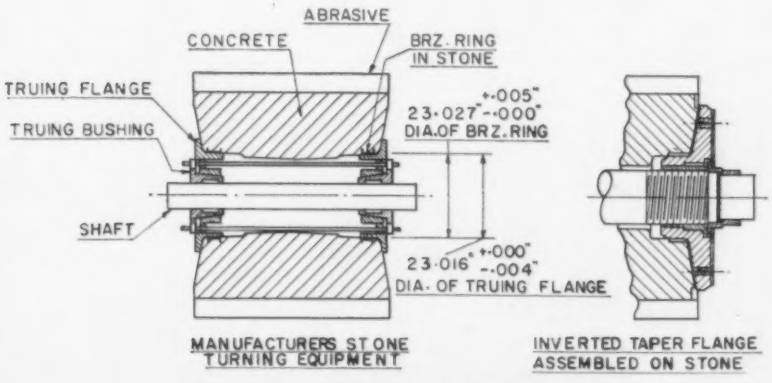


FIGURE 17: FIT ALLOWANCE FOR STONE

that if some aluminum powder is mixed with the grease it is helpful when demounting stones.) After the flanges are mounted screw them up toward the stone, but do not tighten. Be sure the sealing sleeves are in place on the flanges.

2. Lift the stone and shaft into the bearings of the mounting device. The stone must now be turned with the arrow pointing upward, as the stone is now the free weight instead of the shaft which was the free weight when the stone was resting on the floor. This will keep all the fit allowance in same direction as when the stone was turned by the manufacturer.

3. If mounting the flanges with board fillers, these have probably been put in place when the flanges were put on the shaft. Be sure they are kept central on the flange when tightening the stone. Put the pins in the flanges and attach to the holding tackle to hold the flanges from turning. Be sure to keep the stone from turning and arrow and nameplate down. Then turn the shaft to bring the flanges up against the stone, after which attach the tightening arms and use the hydraulic jacks to give the final tightening.

4. If cement grout is used, bring the flanges to position, leaving a space of 5/16-inch to 3/8-inch from the stone. Plug the four 3-inch holes in the flanges so that grout does not fill the holes. Seal the outer edge of the flange, leaving a space at the top to pour the cement. This can be done very effectively with a rope, as shown in Figure 15. Make a sprout of clay or sheet metal at the top opening to pour the cement. The grout should be thin enough to run into and fill the space between the stone and the flange. As the cement sets, it will drop down toward the bottom of the flange. Keep the space full by inching up on the tightening arm, bringing the flange in toward the stone, which will keep the space at the top full. After the cement is well set, use the tightening arm to give the final squeeze.

5. If sulphur grout is used, the procedure is much the same as above. A 3/8-inch space between the stone and the flange should be used, and the sulphur should stop 1-inch from the edge of the flange. This gap around the edge is to be filled with cement grout, this to prevent erosion of the sulphur. A piece of rope or packing can be driven in between the stone and the flange to keep the sulphur back the 1-inch from the edge. Before pouring the sulphur it is advisable to warm the flanges with an oil or gasoline torch, which will allow the sulphur to fill the space before congealing. After the sulphur is set, remove the rope or packing and grout space at the outside of the flange, using a quick-drying cement which does not shrink, as Por-Pok or Embeco. It goes by several names, depending on the manufacturer. Leave this for a few hours to let the flanges cool, and then tighten with the arms and hydraulic jack.

We favor mounting with grout of either kind, believing it gives a mounting that presents a more even pressure against the stone, and one on which the flanges do not creep when grinding is in operation, as the wood mounting is continually tightening up. Stones grouted in this way are more easily demounted.

Demounting Stones

Demounting a stone after some years of operation under high grinding pressures is always a difficult job. We recommend the following procedure:

1. Put the shaft with the stone attached in the bearing of the demounting device. This should go in the opposite way from mounting so that lifting on the arms will loosen instead of tightening the flanges.

2. Take off one sealing sleeve, which exposes two 3/8-inch pipe tap holes. Turn the stone so that these holes are at the top and bottom.

3. Put the holding tackle on the flanges, and put a good strain on the arms with the hydraulic jacks.

4. Attach a steam connection to the top hole and a steam trap to the bottom hole. Be sure the stone is cool before turning on the steam.

5. Turn on the steam and after the shaft becomes heated it will generally loosen. Keep a heavy strain on the arms during the process.

If mounted with sulphur grout, the sulphur can be melted out by heating the flanges should any difficulty be encountered.

The author would like to acknowledge with thanks the help given by Messrs. G. P. Brown (retired) and R. W. Kennedy (Electrical Consultant).

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NEW LITERATURE

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How Walworth Puts the Roll in Rolotork

Tells how Walworth's Unitized Gearing, coupled with Rolotork, provides users with an easily installed, easily operated and maintained lubricated plug valve. Valve selection is simplified through the use of tabular listing of sizes and ratings. Walworth Co., Valves and Pipe Fittings, 750 Third Ave., New York 17, N. Y.

How to Buy a Ball Valve

Enumerates the eight important features that a buyer should look for in a ball valve. Includes a cutaway drawing of a series 701 top entry 150 lb. ASA flanged Flo-Ball valve and an exploded view showing the one moving part, seats and seals. 6 pp. HTB 261. Another bulletin features the series 703, top entry, 300 lb. ASA flanged Flo-Ball valve with Teflon seats and seals. 4 pp. 703-261. Hydromatics, Inc., 5 Lawrence St., Bloomfield, N. J.

Kiln Scanning Pyrometer

Describes the advantages of automatic hot-spot detection, and explains how the Rayoscan system is applied for continuous and reliable monitoring of kiln-shell temperatures. Included are photographs and diagrams illustrating all details of the equipment and its installation, specifications and ordering instructions. 4 pp Data sheet. 705(3). Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia 44, Pa.

Filmex Special Industrial Solvent

Gives properties, specifications, and shipping information of Filmex which is U. S. I.'s trade marked ethyl alcohol special industrial solvent formulated to meet the special needs of the graphic arts and the photographic industries. Bulletin. Technical Literature Dept., U. S. Industrial Chemicals Co., 99 Park Ave., New York 16, N. Y.

Engineering Guide on Carbon-graphite Materials

Assembles for the first time significant reference data on various grades of National carbon-graphite and highlights the advantages accruing from their specification for modern-day mechanical applications. Detailed discussions are included on carbon-graphite materials' high elastic modulus, total impermeability, maintained flatness, resistance to chemical attack, thermal conductivity, and low friction and wear. Also contains tabulations, photographs and a table of design tolerances. Bulletin S-5425. National Carbon Co., 270 Park Ave., New York 17, N. Y.

Servicing the Electric Clarklift

Describes a color film in two parts with a running time of 21 minutes each which is available free for showing to interested groups. The first section explains basic principles and terminology of electricity, pictures testing instruments needed, and shows trouble-shooting techniques. The second part is a detailed study of Clark's carbon pile control system. Clark's industrial truck dealers or Service Engineering Dept., Industrial Truck Division, Clark Equipment Co., Battle Creek, Mich.

Megger Meg Type Insulation Testers

Illustrates and describes the models of the most popular of Megger insulation testers — the Meg type. These instruments are in the 500 and 1000 volt class with new extended sensitivities up to 10,000 megohms in the 1000-volt instruments. Hand-operated, rectifier-operated, dual-operated, and two-voltage instruments are available. Bulletin 21-45-70. 12 pp. James G. Biddle Co., 1316 Arch St., Philadelphia 7, Pa.

New MC Geared Flexible Motor Couplings

Brings together all the pertinent data on Link-Belt motor couplings including the three new features added to the line: a new corrosive duty cover, a new space adapter, and a larger size added to the line that now extends the application range of the couplings to a 2⅝ inch bore size. MC couplings are designed specifically for use as motor couplings for transmitting power to pumps, compressors, generators, speed reducers and similar applications. Packaged components, finished and ready for use, permit "off the shelf" delivery. Folder 2975. Link-Belt Co., Dept. PR, Prudential Plaza, Chicago 1, Ill.

Towmotor Safety Kit

Contains a pocket-sized Lift Truck Operator's Guide, four humorous safety cartoons for posting on plant bulletin boards and four lift truck route posters with their messages of caution on narrow aisles, blind corners, dangerous crossings and low headroom areas printed in bold letters. Operator's Guide includes a 30-point Safety Check List and a 32-point Preventive Maintenance Check List. Towmotor Corp., 16100 Euclid Ave., Cleveland 12, Ohio.

Recovery, Evaporation and Combustion of Spent Sulphite Liquor—Bengt Brunes

Since 1940, considerable progress has been made in methods for the recovery, evaporation and combustion of spent sulphite liquor. This branch of technology has long since emerged from the experimental stage and has become a factor of major importance — a factor that makes for cheaper production of pulp and reduced pollution of the rivers.

As most pulp mills use a calcium base cooking liquor, this 20-page pamphlet paper deals mainly with conditions in the calcium bisulphite process. Many mills, however, are contemplating changing to another base — usually

to sodium or magnesium — some attention is therefore also given to the conditions encountered in such mills.

The booklet is divided into three sections: spent liquor recovery from the digester, blowpit or through filters and presses; evaporator design and processes (particular attention is given to scaling problems); and the combustion of the recovered liquor. The author of this interesting pamphlet, Bengt Brunes, is chief engineer of AB Rosenblads Patenter, Box 5088, Stockholm 5, Sweden.

Clean Water—A Challenge to the Nation

This volume presents the official proceedings of the National Conference on Water Pollution, called at the request of (then) President Eisenhower and held in Washington, D. C., in December, 1960. The purpose of the Conference was to assess the problem of water pollution, to determine its effects upon our national welfare, and to set realistic goals for its control.

The material in this 607-page volume is presented in eight chapters, the first seven devoted to individual sessions and the eighth to a summary of recommendations. The material is based on the formal presentations of speakers and discussants, supplemented by stenographic transcript of floor and panel discussions.

Three appendices are also provided, the first consisting of additions made to the record, the second listing exhibits and film showings, and the third naming the more than 80 conference participants.

Chapter 5, representing a panel session in keeping water clean, contains an address by Leonard Paseh, special assistant to the chairman, Kimberly-Clark Corp. and is concerned with the needs and obligations of industry. Mr. Pasek's remarks are of more than passing interest here, for he draws heavily on the pulp and paper industry's achievement to support whole industry's "marked increase in conservation of water." He cites the work of the National Council for Stream Improvement and the Sulphite Pulp Manufacturers Research League, as well as some of the institutions whose research facilities have been utilized by the pulp and paper industry.

For interested persons, copies of the proceedings are available from the executive secretary, National Conference on Water Pollution, Room 4216, South Building, U. S. Dept. of Health, Education and Welfare, Washington 25, D. C.

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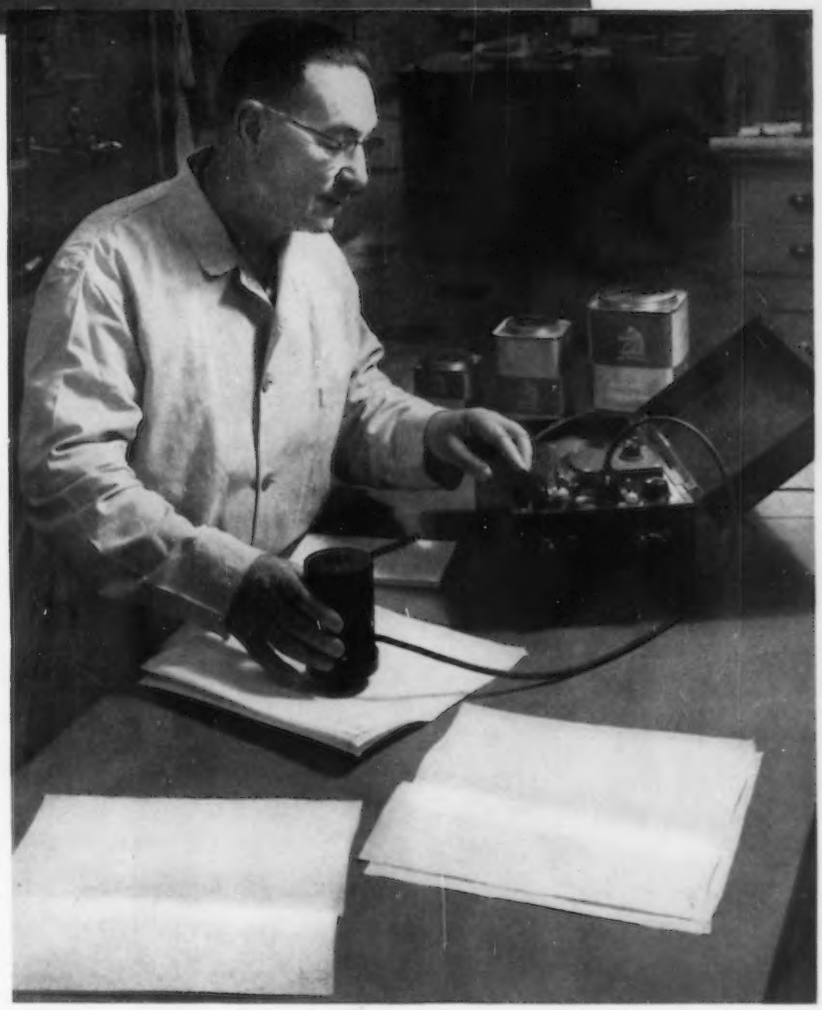

Paper brightness measurements are made with the photo volt meter in determining whitening characteristics of titanium dioxides.

HORSE HEAD PRODUCTS ®

Why wait for paper buyers to set the brightness standard for your products?

Utilizing the extremely high refractive index and reflectivity of HORSE HEAD titanium dioxide, you can impart maximum brightness to your papers now . . . before your customers demand it.

May we show you how HORSE HEAD titanium dioxide can raise the brightness of your high grade papers?

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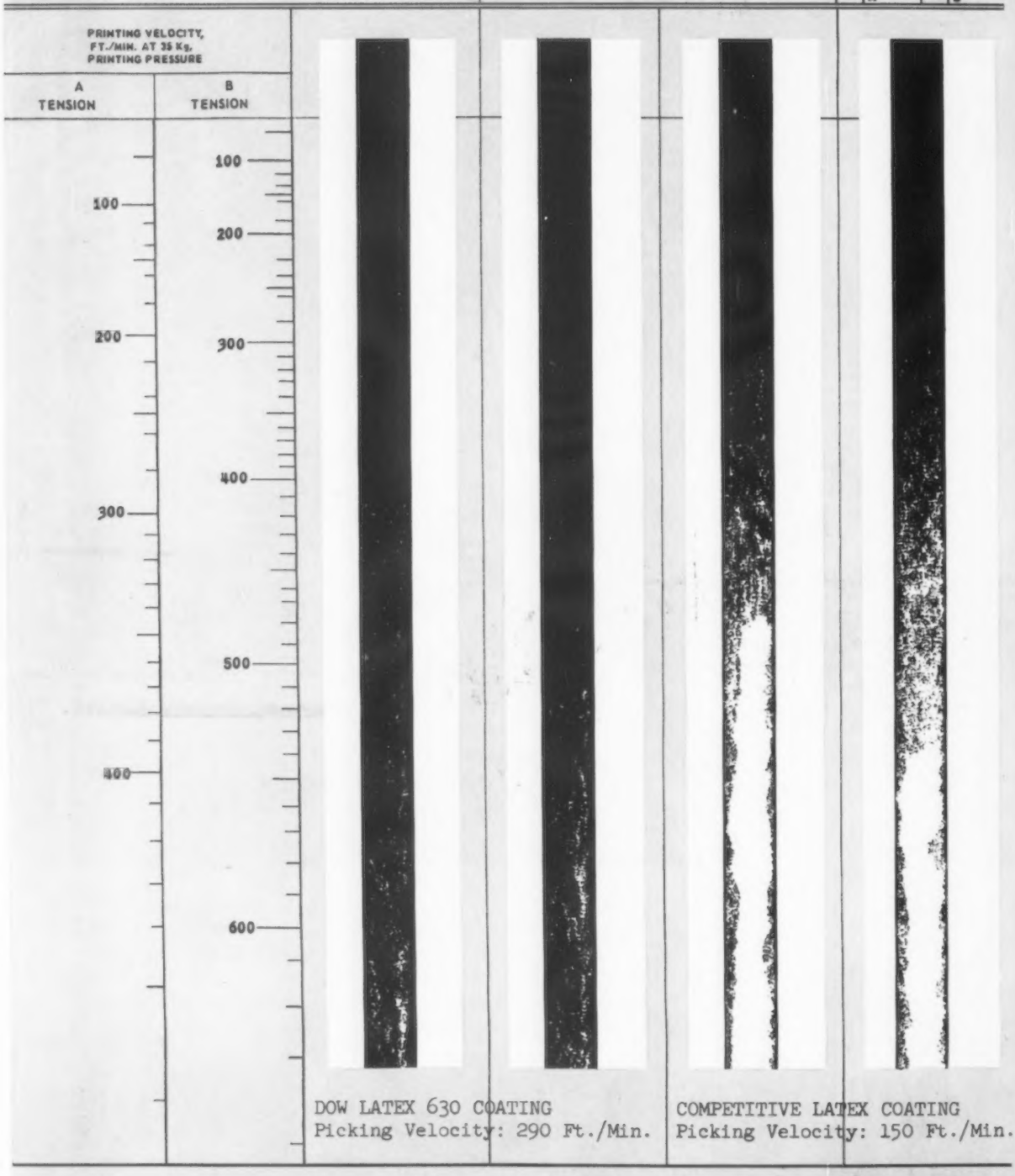
VELOCITY CHART FOR IGT PRINTABILITY TESTER

INK USED IPI NO. 6

SPRING TENSION USED [X] A [ ] B



PROVEN commercially... greater pick resistance with **DOW LATEX 630**

The velocity chart, left, for IGT Printability Tester provides proof of the greatly superior pick resistance of new Dow Latex 630. Here, laboratory test data are reported on the relative printability of commercially coated papers.

The two strips on the right coated with a competitive latex represent the performance of the "standard" grade. The two strips on the left represent the performance of that grade with Dow Latex 630 replacing the competitive latex in the coating.

In this test, Number 6 ink was used, and "A" spring tension. The test strips show that average pick velocity of strips with the competitive latex coating was 150 ft. per minute. But strips coated with Dow Latex 630 showed an average pick velocity of 290 ft. per minute . . . also note the reduction in bodystock splitting and the "blacker" black of the ink with the Dow Latex 630 coating.

In addition to greater pick resistance, Dow Latex 630 offers exceptional starch compatibility, excellent mechanical stability, and other outstanding advantages. Together, they spell superior printability . . . paper that permits clear, sharp, true-to-life reproduction with a minimum of problems for the pressman. Type reproduction stands out sharp and clear, too, because coatings made with Dow Latex 630 produce a more uniformly smooth printing surface.

Find out how Dow Latex 630 can help you to produce better paper . . . and boost your sales. For detailed information, write today to THE DOW CHEMICAL COMPANY, Midland, Michigan, Coatings Sales Department 1931DP5-8

Write for a free copy of this informative booklet on new Dow Latex 630. It contains valuable data and information on how you can improve the performance of your coated papers.

THE DOW CHEMICAL COMPANY DOW Midland, Michigan

ASSOCIATION NEWS

C.P.P.A. Technical Section Plans Meeting

The 1961 Summer Meeting of the Technical Section, C.P.P.A., will take the form of a conference on Chemical Pulping and Bleaching at Saranac Inn, N. Y., on June 7-9.

E. L. Neal, president and general manager of Gaspesia Pulp and Paper Co., Ltd., and 1961 chairman of the Technical Section, will be general conference chairman. A program committee has been formed to plan the program under the chairmanship of W. H. Bush, Dryden Paper Co., Ltd., chairman of the Alkaline Pulping Committee, and includes L. N. Stanners, Anglo-Canadian Pulp & Paper Mills, Ltd., chairman of the Sulphite Committee, and W. H. Rapson, University of Toronto, past-chairman of the Fundamental Research Committee.

The tentative program for the conference is given below.

WEDNESDAY, JUNE 7

General

1. Welcome Delegates: E. L. Neal.

2. Keynote Address: "How Should a Pulping Process be Evaluated?" by W. Gallay, The E. B. Eddy Co.

3. Panel Discussion on the Future of Continuous Pulping for Kraft and Sulphite, with representatives from supplier firms.

Research

1. "Chemical Aspects of Hypochlorite Bleaching," by John Herbst, Industrial Cellulose Research, Ltd.

2. "The Effect of Chip Thickness on Sulphite Pulping and Pulp Quality," by J. H. Feiner and W. Gallay, The E. B. Eddy Co.

3. "Ammonium Sulphide as a Pulping Agent," by J. E. Stone and L. F. Nickerson, Pulp & Paper Research Institute of Canada.

THURSDAY, JUNE 8

Sulphite—New Recovery Processes

1. "Base Recovery from Spent Sulphite Liquors by Ion Exchange," by D. F. Manchester, Abitibi Power & Paper Co., Ltd., and J. P. Termini, Ionac Chemical Co., Division of Pfaudler Permutit, Inc.

2. "Recovery of Ammonia from Ammonia-Base Sulphite Spent Liquor by Ion Exchange," by W. R. Effer, E. W. Hopper and H. B. Marshall, Ontario Research Foundation.

3. "Ammonia-Base Recovery by Ion Exchange: Pilot-Plant Studies on the Pritchard-O.R.F. Process," by W. D. Kerr, Fraser Cos., Ltd.

4 "Automation of the Sulphite Pulping Process," by Heinrich Zak, Kellner Partington Paper Pulp Co., Austria—tentative.

Kraft

1. "Optimum Pulping Degree for the production of Softwood Bleached Kraft Pulp," by J. L. Chollet, F. G. Powell, R. C. Buser and M. G. Duffy, Anglo Paper Products, Ltd.

2. Panel Discussion on Effect of Cold Blow on Kraft Pulp Strength, with representatives from Marathon, Hinton, St. Lawrence, East Angus, Howard Smith, Cornwall and Dryden.

FRIDAY, JUNE 9

Bleaching

1. "Reducing the Cost of Pulp Bleaching," by W. H. Rapson, University of Toronto.

2. Panel Discussion on Bleaching Costs with representatives from Hinton, Terrace Bay, Howard Smith, Cornwall and Gaspesia.

General

1. Panel Discussion on the Cleaning and Screening of Chemical Pulp, with representatives from Thurso, C.I.P., La Tuque, and two sulphite mills.

2. Summary and Closing Remarks, by W. H. Bush.

Officers Elected by Pulp Chemicals Ass'n.

Pulp Chemicals Ass'n and the two divisions elected officers for the coming year at the annual meeting held April 11 in New York City. Newly elected chairman of the Sulphate Turpentine Division is F. J. Eveline, administrative assistant to the vice president of West Virginia Pulp and Paper. He has been vice chairman of the division. Succeeding him as vice chairman is E. V. McSwiney, assistant vice president of Georgia Kraft Co.

The following were reelected officers of the association:

A. B. Doran, president-elect, is general manager, Chemical Products Division, Union Bag-Camp Paper Corp. C. W. Eurenius, vice president-elect, is assistant general manager of the Paper Makers Chemical Department at Hercules Powder Co.

A. M. Rankin, chairman-elect of the Tall Oil Products Division, is sales manager by-products of the Continental Can Co., Inc. Elected vice chairman is J. H. Ruskin, president of Arizona Chemical Co. Mr. Douglas E. Campbell continues as secretary-treasurer.

TAPPI Empire State Section to Meet

The Empire State Section of TAPPI will hold its annual meeting at the Whiteface Inn, Lake Placid, N. Y., on June 8, 9, 10. The program includes technical papers and discussion covering important new subjects in paper manufacture and conversion. Theme of the conference will be "New Developments in Papermaking." Harold M. Annis, president of TAPPI, will open the conference with pertinent remarks at dinner, Thursday, June 8.

FRIDAY, JUNE 9

New Developments in Wet End Operation

1. The Inverformer—William Goodwill—Beloit Iron Works.

2. The Rotoformer—Vincent Long—Blandy Paper Co.

3. Plastic Wires — C. S. Lee — Formex Co.

4. Wire Doctors—J. S. Cooper—Lodding Engineering Co.

SATURDAY, JUNE 10

Modern Finishing Practices and Developments

1. Supercalendering—D. D. Anderson—International Paper Co.

2. Electronic Sorting—C. J. Rinfret—Rolland Paper Co.

3. Abitibi Sorter—M. P. McMartin—National Research Council.

4. Trimming — Farhang Javid — Smith and Winchester.

5. Junior Award Papers.

AFTERNOON SESSIONS, JUNE 9-10

Workshop Groups will meet for questions and round table discussion of the papers presented in the morning sessions.

Pulp Paper and Board Mill Maintenance

Based on actual in-plant experience and prepared by well known men in the paper industry, this 126 page book brings you in easy to read language procedures for plant maintenance of kraft mills, semi-chemical mills, bleach plants, fourdrinier and cylinder machines, stock preparations equipment, and other machinery used in pulp and paper making. Price $2.50.

Contents

How to Organize a Better Maintenance Department 7
Planned Maintenance is Productive Maintenance 11
The Consultant's Role in Paper Mill Maintenance 14
A Drafting Board Can Reduce Your Maintenance 16
Maintenance Problems of the Smaller Mill 18
Let's Put Lubrication in a New Perspective ... 20
What an Engineered Lubrication Program Involves 22
Take Care of That Cable 27
What a West Coast Mill Does About Woodroom Maintenance 28
Woodyard and Woodroom Maintenance at Brunswick 31
Groundwood Mill Maintenance 33
Cutting Costs of Pulp Mill Maintenance 37
Maintenance at a Semi-Chemical Mill 40
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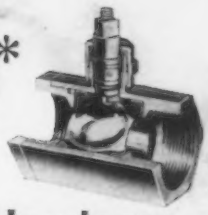
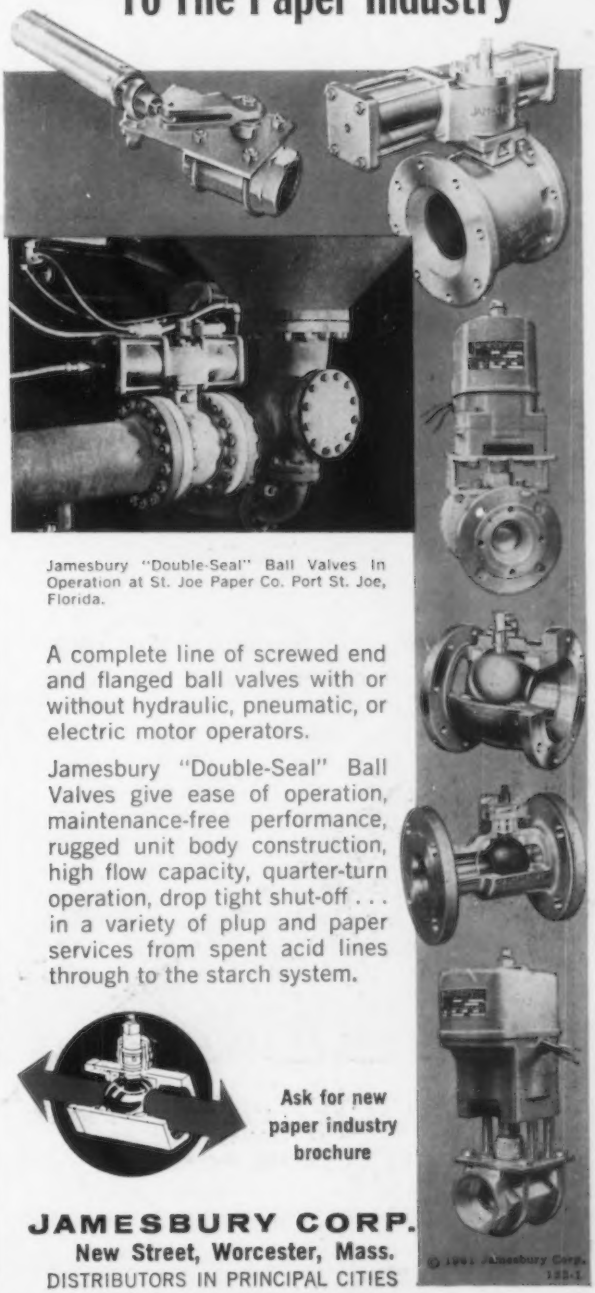


Delivering Special Operating Advantages To The Paper Industry



Jamesbury "Double-Seal" Ball Valves In Operation at St. Joe Paper Co. Port St. Joe, Florida.

A complete line of screwed end and flanged ball valves with or without hydraulic, pneumatic, or electric motor operators.

Jamesbury "Double-Seal" Ball Valves give ease of operation, maintenance-free performance, rugged unit body construction, high flow capacity, quarter-turn operation, drop tight shut-off . . . in a variety of plup and paper services from spent acid lines through to the starch system.

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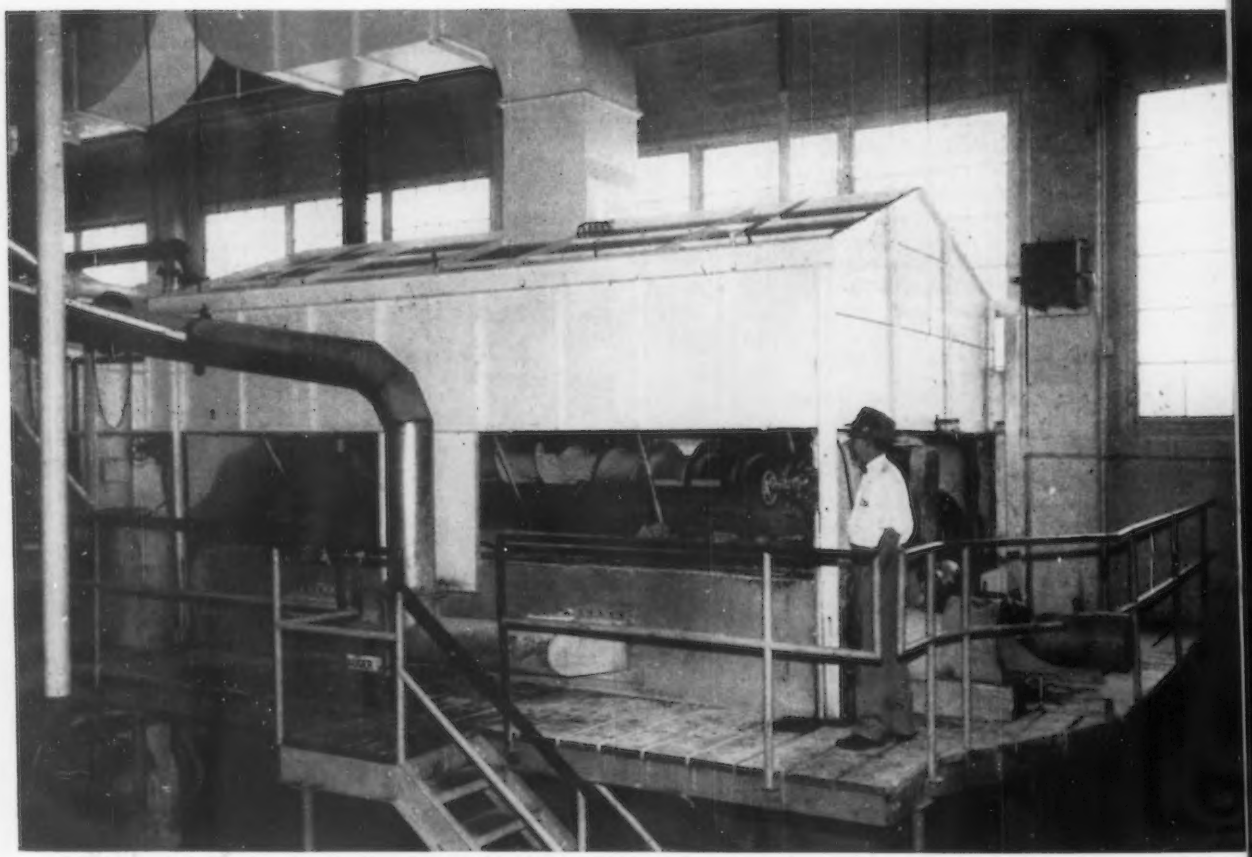
New large design

OLIVER® DENHARD

handles 160 tons daily



OLIVER DENHARD DISCHARGER on 8' x 16' groundwood washer at Elk Falls Company Limited, division of Crown Zellerbach Canada Limited, Vancouver Island, B.C. Pick-up roll is 15½" O.D. Unit operates at a speed of 4 R.P.M. on the washer, handling up to 200 AD tons daily.

DISCHARGER

on a groundwood washer

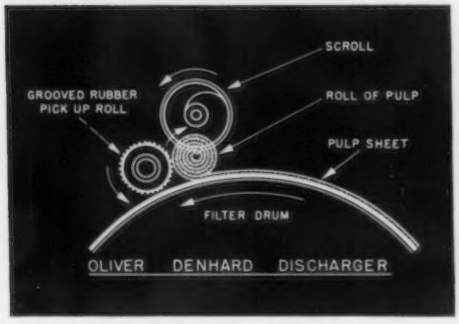
at Crown Zellerbach plant

For many years the Oliver Denhard Discharger has been successfully used on vacuum type groundwood thickeners. Now a large size has been developed which not only permits higher R.P.M. (and thus capacity) on groundwood thickeners, but also makes it practical to use this efficient device on groundwood washers, involving much higher tonnages than previously contemplated.

For example, Elk Falls Company Limited, a division of Crown Zellerbach Canada Limited, has recently put into operation a Denhard Discharger on a groundwood washer handling 160 AD tons daily. A second unit has been ordered. A Denhard Discharger of similar size is also being used on a vacuum groundwood thickener, permitting cylinder speeds in excess of 7½ R.P.M.

The Denhard Discharger on a groundwood washer makes possible a higher discharge consistency—in the order of 8 to 9% AD—than the conventional hydraulic doctor. Water consumption of the hydraulic doctor is eliminated, resulting in a higher stock temperature and a reduction in the amount of slime formation.

If you already have an Oliver Denhard Discharger in operation with a groundwood thickener, use of this new, larger size may permit a faster cylinder speed and higher capacity. Installation in place of a conventional hydraulic doctor on a groundwood washer will pay immediate dividends in terms of higher discharge consistency and saving of water. Write to Dorr-Oliver Incorporated, Stamford, Conn.



SIMPLE OPERATION of the Oliver Denhard Discharger is shown in this diagram. A grooved rubber pick-up roll starts the pulp sheet rolling up on itself like a carpet. A scroll carries the pulp to either end of the unit for discharge. Since nothing touches the facing wire but the pulp itself, maximum wire life is assured, together with a minimum of wire blinding.

DORR-OLIVER

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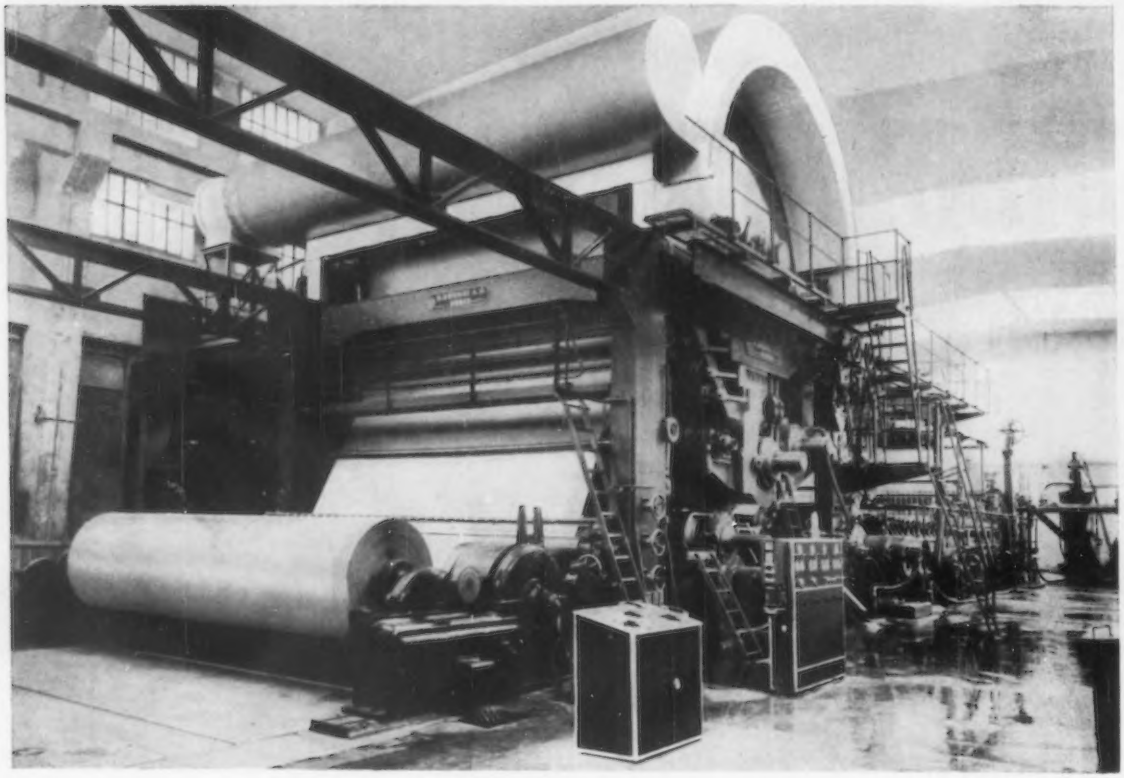

The widest Yankee machine for the manufacture of M. G. Kraft papers

- 210 inch wire width.
- 16 foot diameter Yankee Cylinder, 218 inches wide, weighing 99 tons for a steam pressure of 66 psi.
- Vacuum flow box (patented in Germany and abroad).
- 47 inch diameter Suction Couch Roll arranged for adjustable width of the suction zone (patented in Germany and abroad).
- Suction Press.
- Hydraulic Pope Reel (patented in Germany and abroad).

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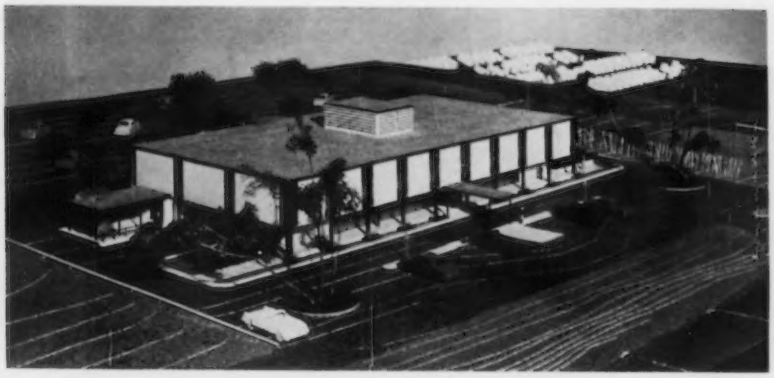
PJT NEWS OF SUPPLIERS



J. E. Sirrine Co., engineers and architects of Greenville, S. C., have awarded construction contracts for their own new modern office building to be located near the Greenville airport. Sirrine president, George Wrigley, Jr., announced that completion is scheduled for January 1962 to coincide with the company's 60th anniversary. The new Sirrine headquarters will provide 32,500 square feet of air conditioned office space in a unique two-story design. Total construction and site development costs are reported to be in excess of one-half million dollars.

Nashua Industrial Machine Corp. has announced the addition of a new division to be known as Nim-Cor, Inc., an abbreviation of the parent company name which has also been adapted to one of the company's best selling products, the Nim-Cor air shaft.

The air shaft is currently in wide use to facilitate the mounting of paper, textile, plastic and wire rolls on winding and unwinding equipment.

Primarily a general machine shop, Nashua Industrial Machine Corp. also manufactures custom paper and plastic equipment.

The new special division of the company has been established to be devoted entirely to the production of the shafts and a companion product, a custom laminated fiberglass expanding sleeve for use in coreless roll winding operations.

National Lead Co., New York, has elected Graham W. Corddry and Claude M. Merrell vice presidents.

Mr. Corddry, director and member of the executive committee of National Lead Co., is manager of the Titanium Division. Mr. Merrell directs National Lead's foreign operations.

Cyanamid International Corp., Zurich, Switzerland, has named Charles F. Bonnet as managing director for general chemicals in continental Europe.

E. G. Hesse, vice president of American Cyanamid Co.'s European subsidiary, said Mr. Bonnet's appointment would mean increased sales and technical service to Cyanamid's general chemicals customers in Europe.

Mr. Bonnet will have responsibility for developing sales and coordinating the promotion, sale and servicing of Cyanamid chemicals on the continent and also will act as liaison officer for Cyanamid subsidiaries and affiliates which produce general chemicals in Europe.

Bailey Meter Co. has transferred Ralph K. Johnson, application engineer in the proposition department, to the Pulp & Paper Division. He will operate from the company's office in East Orange, N. J., specializing in the application of Bailey products and systems serving the pulp and paper industry in Bailey's Region I (eastern) area.

Bailey Meter, with headquarters in Cleveland, Ohio, manufactures industrial instruments and automatic controls for the power and process industries.

Mr. Johnson joined Bailey in 1955 as an engineering trainee and later was assigned to the pulp and paper group of the proposition department. A graduate of the University of Buffalo, he received a B.S. in mechanical engineering.

Stein, Hall and Co. announces that it is the exclusive U. S. agent for Manutex brand of sodium alginate manufactured by Alginate Industries, Ltd.

General Aniline & Film Corp., New York, N. Y., has appointed Emil A. Wich manager-technical service and development at the Collway Pigments Division. Mr. Wich was manager—technical service. He will report to R. C. Hyatt, director of marketing of the division, and will be responsible for technical service, as well as sales and product development of present product lines.

Mr. Wich has been with the corporation for 25 years, joining it in 1935 as chief chemist at Collway Colors, Inc. Until the recent reorganization of the company and the creation of Collway Pigments Division, pigments were handled through the Pigment Department of General Dyestuff Co.

W. B. Moody

J. C. Leidy

Brandon Sales, Inc., sales agent for Brandon Dryer Felts, announces the following sales personnel appointments for its Northern and Mid-Atlantic territories, the latter being newly established. In the northern territory, W. B. Moody, will cover New York, Connecticut, Rhode Island, Massachusetts, Maine, New Hampshire and Vermont. In the Mid-Atlantic territory, John C. Leidy will cover Pennsylvania, New Jersey, Delaware, Maryland, Virginia and Ohio.

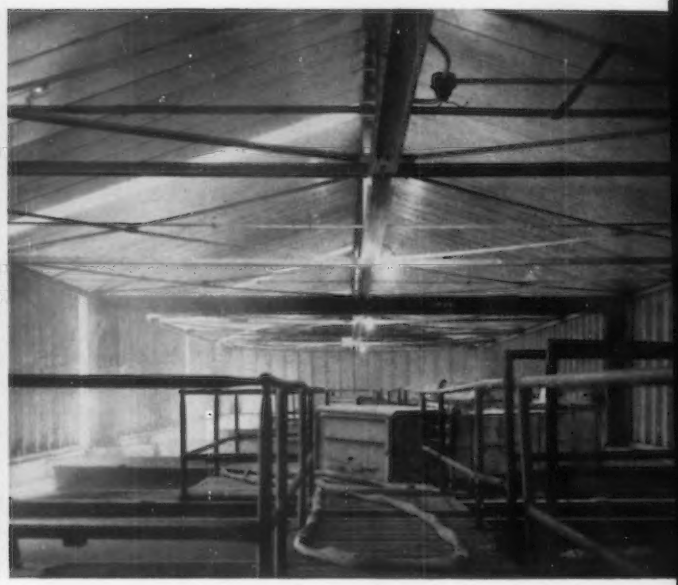
Link-Belt Co., Chicago, Ill., has announced the appointment of new district managers for Detroit and Houston.

Robert R. Henry, formerly sales manager for the Link-Belt South-

New steels are born at Armco

Tank housing demonstrates

of Armco



White water saveall tanks
Oxford-Miami Division,
Oxford Paper Co., West Carrollton, Ohio

Early in 1954 this ALUMINIZED STEEL Type 2 structure replaced wooden tank covers. Despite seven years' exposure to weather, high humidity and condensation from open tanks, plus an occasional dousing with white water, it is still in excellent condition. No maintenance has been required since construction, and recent inspection indicates none will be needed for many years.

Steel

For Durability,
Economy,
and Strength

Cuts Cost in Many Applications

This is typical of the service provided by Armco's special hot-dip aluminum-coated steel in many pulp, paper, and chemical plants. It combines the strength and low cost of steel with the surface characteristics of aluminum.

low-cost durability

ALUMINIZED STEEL

In-plant experience and 22-year atmospheric exposure tests prove that ALUMINIZED STEEL Type 2 has excellent resistance to weathering and to the humid atmospheres of machine and stock preparation rooms.

In addition, it costs less than aluminum. Its special aluminum coating lasts about 4 times longer than unpainted commercial zinc coatings on galvanized sheet steel; and it doesn't need to be painted.

You can eliminate troublesome maintenance and save money by using this economical Armco Steel for conveyor covers, buildings, dryer hoods, roofing, siding, ductwork, and other applications where you want low-cost corrosion resistance. Write us for complete information on the properties and uses of Armco ALUMINIZED STEEL Type 2. **Armco Division, Armco Steel Corporation, 2181 Curtis Street, Middletown, Ohio.**

ARMCO **Armco Division**

western Division, has been appointed district manager for the Detroit territory to succeed George A. Paige, who retired on April 30 after 42 years with the company. Mr. Paige has been district manager at Detroit since 1938. Raymond A. Ibarguen succeeds Mr. Henry as district manager for the Houston territory.

T. C. Jones

D. G. Braithwaite

Nalco Chemical Co., Chicago, Ill., has elected Thomas C. Jones chairman of the board. He continues as the firm's chief executive officer. At the same time David G. Braithwaite was named president, the position previously held by Mr. Jones.

Mr. Jones succeeds Herbert A. Kern, co-founder of Nalco, who proposed the above changes. Mr. Kern was designated honorary chairman, and will continue as a director and a member of the executive committee.

The office of vice chairman of the board was left vacant in view of the desire of Joseph A. Holmes to devote more time to other activities. He continues as a director and will also serve in a consulting capacity.

Rice Barton Corp., Worcester, Mass., has appointed David F. Craft to the position of chief estimator.

Mr. Craft was advanced to his new position after serving in Rice Barton's Engineering and Estimating departments. Previous to joining Rice Barton in 1960 he was with Integron, Inc., Waltham, Mass., and Associated Engineers, Boston, Mass., as a machine and tool designer.

Robert J. Kneeland was named manager of personnel. Prior to this appointment Mr. Kneeland has served in several manufacturing departments of the company.

Southern Clay, Inc., of New York City, announces the opening of a new research laboratory and pilot plant with the most modern facilities and equipment available.

The new laboratory and (separate) pilot plant are located near Gordon, Ga., about one mile from the main plant.

The laboratory is some 16,000 square feet in size and is subdivided

into five main groupings: functional research, ceramics, paper, new product development, and organic applications—primarily paint, rubber and plastics, with associated service areas such as instrument rooms, darkroom, constant humidity room, library, conference, reception and offices. The pilot plant, containing some 6,000 square feet, is in a separate building approximately 200 feet from the lab.

Fuller Co., Catasauqua, Pa., a leading manufacturer of compressors, pneumatic conveying equipment, and heavy process equipment for cement, chemical and other process industries, has appointed R. Kirk Booker as sales representative.

Mr. Booker will be primarily concerned with sales and service of Fuller pneumatic conveying and process equipment in the Southern Division's Houston office.

Minneapolis-Honeywell Regulator Co., Philadelphia, Pa., has appointed John B. Moxness as manager of pyrometer supplies for its Brown Instruments Division.

Mr. Moxness will supervise sales, engineering and manufacturing operations headquartered in Philadelphia and also coordinate these with activities of other company divisions.

"Your alarm clock failed to wake you? Don't tell me you sleep at home too!"

Crane Co., New York, N. Y., has announced the election of Norman B. Champ, Jr., as a vice president of the company. Mr. Champ will supervise the operations of the Midwest Piping Division of St. Louis, Mo., the Chapman Valve Manufacturing Co. of Indian Orchard, Mass., Swartwout Division of Hooksett, N. H., and the Cochrane Division of Philadelphia, Pa. His headquarters will be in New York City.

The announcement of Mr. Champ's new position closely follows Crane Co.'s acquisition of Midwest Piping Co., Inc., where he was vice president and a director. Midwest is a leading factor in pipe fabrication and the assembly and erection of complete piping systems. Sales last year were approximately $26,000,000.

Metalsalts Corp., Hawthorne, N. J., has appointed William J. Delaney product manager for all Metasol chemicals distributed to the paper industry.

Mr. Delaney joined the company in 1958 as a microbiologist and has been associated with the new product development program, and technical service to the paper industry, for the past three years.

The Metasol Division of Metalsalts Corp. manufactures an extensive line of bactericides and fungicides for the paper, paint, textile and other industries.

SKF Industries, Inc., announces that a $1 million facility for manufacturing research and development of special types of bearing production machinery will be built in Kilmarnock Industrial Park (north of Towson, Baltimore County), Md.

The newly created manufacturing development unit will not displace

Conical Perforation and Thickness of Material

are the principal characteristics of my

Screen Plates

made of brass, bronze or stainless steel

Also:

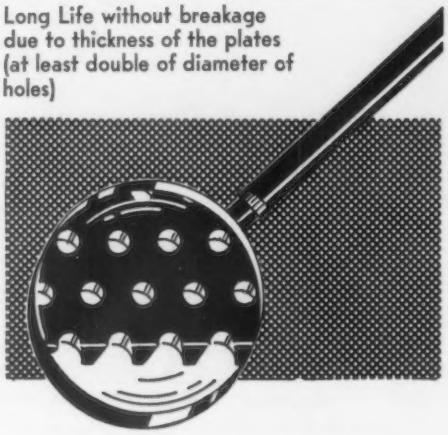
Cut Plates, complete Screen Drums,

Dandy Rolls for all purposes,

Flat and Rotary Screens,

All kind of Fourdrinier Wires for Paper, Board and Cellulose Mills

Long Life without breakage due to thickness of the plates (at least double of diameter of holes)



diameter of holes down to 0.02" for screens and classifiers of all systems

Proved in most of the European and in many Oversea Ground Wood Paper and Cellulose Mills

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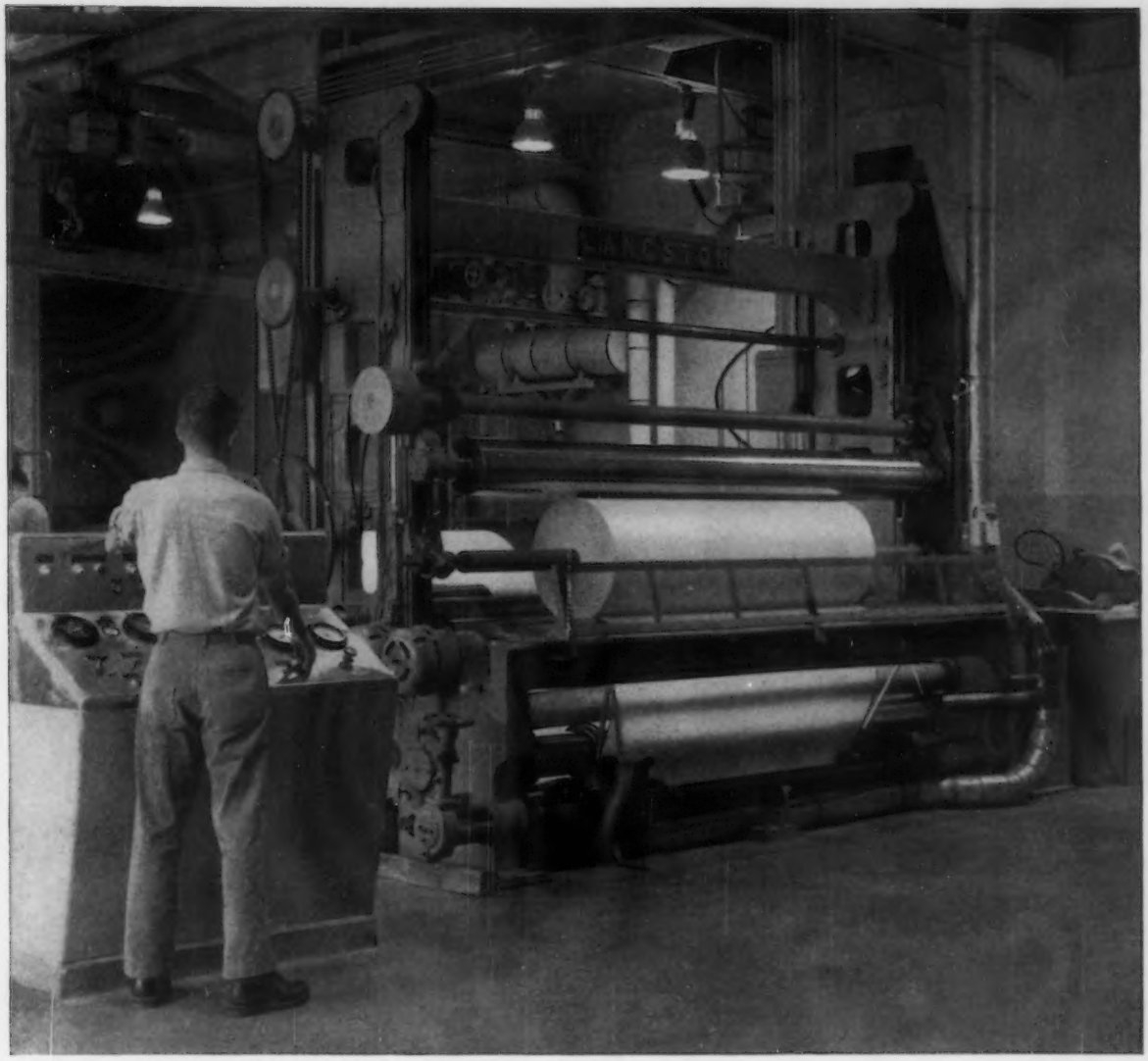


Want uniformly wound, scratch-free rolls of fine paper? Call Langston

Every type of paper has its own special winding requirements. This is why Langston offers winders with so wide a variety of features—why you can get the exact winding results you want, for your particular weight, grade and finish of paper.

The two Langston winders recently installed at Hurlbut Paper Co. (subsidiary of The Mead Corporation), at South Lee, Mass., were built to handle fine specialty papers. Instead of standard, fixed-type spreaders, Langston used rotating-type cambered spreaders. They not only eliminate scratches, but insure clean separation of the rewound rolls.

Operators like the easy operation of these machines. From a convenient console, they can operate practically all controls, including automatic constant sheet tensioning, automatic roll ejection, winder speed, and lateral adjustment of back stand.

What are your special requirements in a winder? Langston can engineer a winder to meet them. Write for information. Samuel M. Langston Co., 6th and Jefferson Sts., Camden 4, N. J.

Langston LEADERSHIP . . . BY DESIGN

any current employees. It is eventually expected to employ about 100 development engineers and technicians. A one-story building to be erected on the site will contain about 30,000 square feet of office and development area.

Lamb-Grays Harbor Co., Hoquiam, Wash., has promoted Robert F. Neilsen to the position of sales manager according to Victor Hanson, retiring vice president-sales manager. Prior to his association with Lamb, Mr. Neilsen was project engineer for Buckeye Cellulose Co., a subsidiary of Procter & Gamble Co. in Foley, Fla.

Mr. Neilsen will be responsible for the direction of all phases of the company's domestic and foreign sales engineering program. This will include erection and start-up.

R. F. Neilsen

H. H. Gorrie

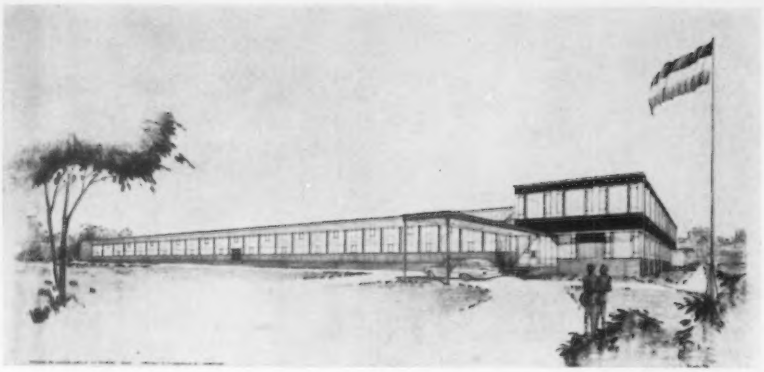
J. H. Dennis

L. F. Richardson

Bailey Meter Co., Cleveland, Ohio, has announced three executive promotions. H. H. Gorrie has been elected executive vice president; L. F. Richardson, vice president in charge of sales activities and a member of the board of directors; and J. H. Dennis, vice president in charge of all manufacturing activities and plants.

Texas Gulf Sulphur Co., Houston, Tex., has elected E. F. VanderStucken, Jr., a director.

Mr. VanderStucken resigned as vice president and secretary of Texas Gulf Sulphur in January 1961. He joined the company in 1936 and served as secretary from 1955 and vice president from 1957. He has been retained by the company as a consulting attorney.



Foxboro Co., Foxboro, Mass., has announced the completion of a new instrument manufacturing and assembly building at the Foxboro (Nederland) N.V. plant in Soest, Holland.

The new facilities, now in operation were dedicated during an open house ceremony held on May 2.

The new structure, which gives the plant a total area of nearly 40,000 square feet will permit a substantial increase in the production of standard Foxboro instruments supplied to industries in the European Common Market.

The new building has over 23,000 square feet of factory and warehouse space, a boiler room and a two-story office facility.

S & S Corrugated Paper Machinery Co., Inc., Brooklyn, N. Y., has appointed Floyd A. Simpson S & S resident erector for the West Coast area. Formerly an erector and maintenance specialist for several West Coast corrugated box plants, Mr. Simpson will be working under the direction of Mr. A. H. Crocker, S & S sales engineer for the West Coast. Mr. Simpson will install, maintain, and service S & S corrugated board and boxmaking machinery located in the Western States.

Research-Cottrell, Inc., Bound Brook, N. J., has appointed Ralph L. Chamberlin to fill a new post as director of international operations.

Mr. Chamberlin will have full authority and responsibility to conduct the operations outside the United States and Canada for Research-Cottrell, a U. S. manufacturer of industrial gas cleaning equipment.

A. E. Staley Manufacturing Co., has announced appointment of Francis Person, Jr., as a section head in the industrial market development department.

Mr. Person will head a major section of the industrial market development of products from Staley's new starch fractionation process, "Napol L" amylose and "Napol B" amylopectin. He was formerly senior technical representative in the fine chemicals market section of Koppers Co., Inc., in Pittsburgh.

Dorr-Oliver Inc., has named Charles M. Comstock, who is at present advertising manager, manager of its newly formed CompleTreator Sales Division, effective May 1. George F. Lambeth, sales specialist, will replace Mr. Comstock, with the new title of advertising and publicity manager, on that date.

In his new position, Mr. Comstock will be responsible for developing a network of distributors to market and service D-O CompleTreator sewage treatment systems and Dorr-Clone water desanding systems.

Hercules Powder Co., Wilmington, Del., has elected John H. Long a vice president and member of its executive committee.

Dr. Long has been general manager of the company's Paper Makers Chemical Department since June 1956 and a member of the company's board of directors since December 1958. He is also president and director of Hercules Powder Co. (Canada), Ltd.

Hercules has also announced a change in designation of some operating departments to be effected July 1.

The designated departments are: Explosives; Synthetics; Cellulose and Protein Products (formerly Virginia Cellulose); Polymers (formerly Cellulose Products); and Pine and Paper Chemicals (composed of the former Naval Stores and Paper Makers Chemical Departments). Other departments remain unchanged.

General managers of the newly constituted operating departments are: Werner C. Brown, general manager, polymers; Edward G. Crum, general manager, cellulose and protein products; Jack D. Hayes, general manager, explosives; G. Fred Hogg, general manager, pine and paper chemicals; and Donald H. Sheffield, general manager, synthetics.

Henry A. Thouron continues as general manager of the International Department; Alfred E. Van Wirt, manager, Imperial Color Chemical & Paper Department; and Forest B. Evans, manager, Fiber Development Department.

General Aniline & Film Corp., New York, N. Y., announces that Melvin Hoyt has joined the Commercial Development Department of The Chemical Group and has been appointed a market development engineer.

Prior to his new affiliation, Mr. Hoyt was the sales manager of Abbey Chemical Corp.

OBITUARIES

Walter L. Bubie died April 17 in Shawinigan Falls, Quebec, after a short illness.

Vern B. Dunifon, 47, manager of the Continental Can Co. plant in Tonawanda, N. Y., died of a heart attack April 23. He had managed the company's plant since 1950. He formerly was associated with Van Wert, Ohio, plant of the company.

Sverre (Steven) H. Grimnes, 59, died suddenly of a heart attack on April 10. He was associated with Cummins and Barnard, consultants of Ann Arbor, Mich.

Mr. Grimnes was previously associated with Ebasco Services, International Paper, Diamond Match, U.S. Wallboard Machinery and the Munising Paper companies. He was educated in Norway.

Michael J. Lawless, 80, founder and president of Lawless Bros. Paper Mills, Inc., died April 21. Mr. Lawless founded the business in East Rochester, in 1916 and was its sole president.

Charles L. Lewis, 58, eastern sales manager of Peter Cooper Corporations, headquartered at Boston, Mass., died suddenly at his home in Dover, Mass., on April 26.

Just 3 days lost production of a Paper machine can cost more than the vacuum pumps. That makes dependability the essential factor in pump selection. No pump is more dependable than a Nash

Over a thousand leading mills depend on Nash Vacuum Pumps to insure uninterrupted production. Nash Pumps are built to stand the pounding of continuous operation. They are simple. They have no internal parts in wearing contact. They will handle slugs of water or stock. They are designed to operate at the low speeds necessary for long life and reliability. Don't gamble with your production. Install Nash Vacuum Pumps and be safe.

The new Nash 5308-A shown above, has four separate suction inlets, each of which functions independently of the others. This offers the machine operator great flexibility, since these may be used in any desired combination to produce a variety of capacities and vacuums.

NASH ENGINEERING COMPANY

SOUTH NORWALK, CONN. U.S.A.

"Paper conditioning the modern way"

BUILT TO OPERATE AT ANY MACHINE SPEED

SYSTEMS ALSO BUILT FOR APPLYING SIZING MATERIALS, STARCHES, WAX EMULSIONS, PLASTICIZERS AND OTHER SURFACE FINISHING SOLUTIONS.

BUILT FOR MANUFACTURING OR CONVERTING PROCESSES

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THE RUST ENGINEERING CO.

PITTSBURGH • BIRMINGHAM

Figures of the Week

PAPER PRODUCTION RATIO REPORT—American Paper & Pulp Assn. Figures

(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

	Mar. 25	Apr. 1	Apr. 8	Apr. 15	Apr. 22
1961	91.6	90.3r	88.9	92.8r	91.0
	Mar. 26	Apr. 2	Apr. 9	Apr. 16	Apr. 23
1960	99.0	97.9	96.6	97.2	94.4

r Revised.

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1960	96.5	97.7	98.1	96.9	97.6	96.1	81.2	91.7	89.1	94.8	92.0	80.2	92.7
1961	87.9	90.0	91.1‡										

‡ Preliminary.

COMPARATIVE YEARLY SUMMARIES

	1954	1955	1956	1957	1958	1959	1960	1961
Year to Date	93.9	96.5	101.4	95.8	88.5	91.2	97.2	89.9
Year Average	91.6	96.2	97.9	90.4	87.0	92.2	92.8	

All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available.

PAPERBOARD OPERATING RATIOS†—National Paperboard Assn. Figures

COMPARATIVE WEEKLY SUMMARIES

	Mar. 25	Apr. 1	Apr. 8	Apr. 15	Apr. 22
1961	91	91	86	93	92
	Mar. 26	Apr. 2	Apr. 9	Apr. 16	Apr. 23
1960	93	91	94	95	86

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1960	92	95	94	93	94	92	78	94	88	93	86	73	89
1961	88	89	91										

† *Per cents of operation based on "inch-hours" reported on a 6-day basis to the National Paperboard Association.*

SUMMARY OF PAPERBOARD STATISTICS—National Paperboard Assn. Figures

ITEM	WEEK ENDING April 15, 1961	WEEK ENDING April 22, 1961	CUMULATIVE TO DATE Jan. 1, 1961, to April 22, 1961
% Activity	93%	92%	90%
Total	315,490	322,181	4,863,097
Containerboard—Domestic Use	158,736	158,723	2,454,848
Liner	104,968	104,862	1,629,777
Corrugating Material	48,684	48,982	748,071
Chip & Filler Board	5,084	4,879	77,000
Boxboard—Domestic Use	99,007	102,868	1,532,274
Folding	59,789	59,869	904,641
Set-Up	10,003	10,276	149,966
Special Food Board	29,215	32,723	477,667
Other Paperboard	57,747	60,590	875,975
Containerboard Type	28,608	27,519	417,282
Boxboard Type	29,139	33,071	458,693
Total Orders			
Received	296,339	306,093	
Unfilled End of Week	435,615	419,627	

Alvin H. Johnson

& Co.

INCORPORATED

Consulting and Designing Paper Mill Engineers

415 LEXINGTON AVENUE
NEW YORK 17, N. Y.

PAPER MILL DESIGN
PROCESS ENGINEERING
POWER PLANTS
STRUCTURAL & ARCHITECTURAL DESIGN
REPORTS
APPRAISALS
ESTIMATES AND SURVEYS

PAPER TRADE JOURNAL is always mailed on Friday at East Stroudsburg, Pa. If you feel that there is undue delay in receiving your copies we suggest that you write to your local postmaster with a copy to S. E. Marsh, assistant postmaster at East Stroudsburg. If you will also send a copy of your complaint to us this will keep us posted on areas of poor service.

FINISHED PRODUCT PROCESSING EQUIPMENT Winders • Reclaim Winders • Cutters • Sheeters • Slitters • Supercalenders • Roll Wrappers • Roll Lowering Tables • Roll and Shaft Handling Equipment • Conveyors • Unwind Stands and Tru-Tension Controls • and other equipment for the paper and allied industries.

before you decide on a new **winder**

meet some "Beloit Eastern" people

W. D. MARKOWSKI *(left and below)* is known to mills in the U. S. and around the world—Europe, Canada, South America—wherever modern plants set new production records. As manager of winder sales for Beloit Eastern Corporation, "Mark" brings to the problems of papermaking a vast knowledge of paper grades and a sure sense of practicality in winder applications.

GERRY FORSBERG *(right)* brings to the winder field a broad electrical industry background. He is representative of Beloit Eastern's ability to recommend and build high-speed winders to meet the most exacting mill requirements.

NEW FEATURES, complete range of sizes, styles, expert service make Beloit Eastern logical choice for modern winders.

BELOIT EASTERN PAPER MACHINERY DOWNINGTOWN, PENN.

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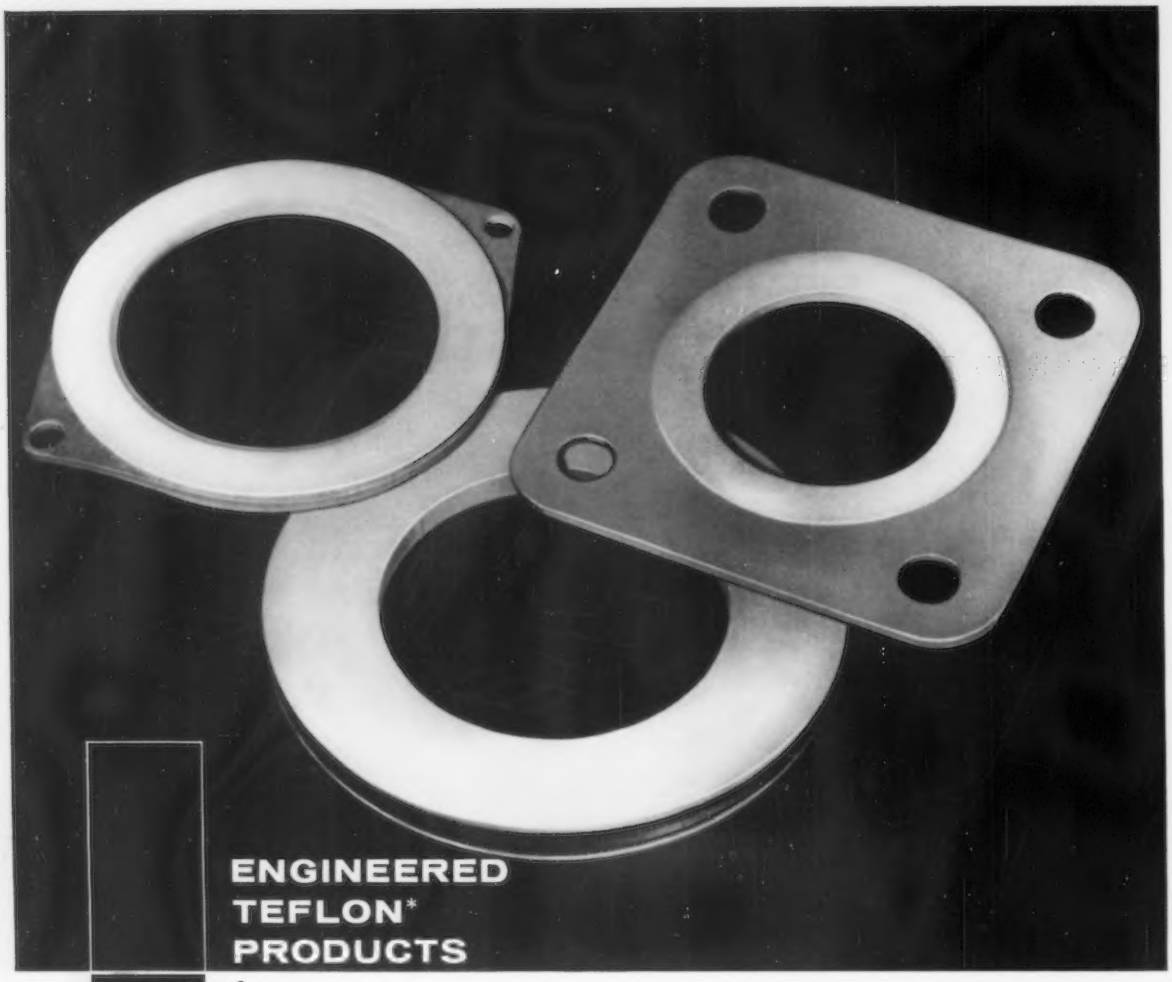
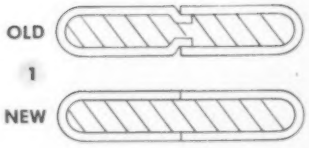
CORPORATION
Downingtown, Pennsylvania



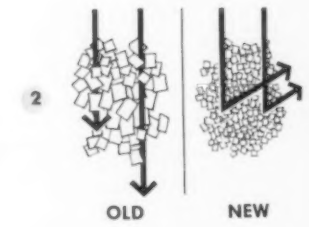
ENGINEERED TEFLON* PRODUCTS

for Paper Mills

New, improved Garlock Teflon-Jacketed Gaskets offer distinct advantages on glass-lined equipment. Two new design innovations have been added to the formed-shield type of gasket: (1) ends are now butt-welded instead of overlapped, resulting in a face of uniform thickness and elimination of "lump" at the seam; (2) a new, high-quality grade of Teflon is used, resulting in less permeability and chance of mechanical failure.

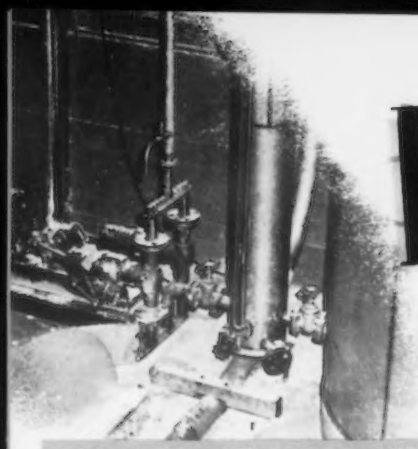


For positive sealing to withstand—but not contaminate—reactive blends, batches and mixtures, apply Garlock Teflon-Jacketed Gaskets. Wide variations of styles, filler materials, and sizes can be furnished to suit practically all process equipment including glass-lined piping, flanges and fittings. Call your local Garlock representative at the nearest of the 26 Garlock sales offices and warehouses throughout the U. S. and Canada. Or, write for Catalog AD-154. Garlock Inc., Palmyra, N. Y. **Canadian Div.:** Garlock of Canada Ltd. **Plastics Div.:** United States Gasket Co. **Order from the Garlock 2,000** . . . two thousand different styles of Packings, Gaskets, Seals, Molded and Extruded Rubber, Plastic Products.



*DuPont Trademark

GARLOCK



BECCO ECHO

PUBLISHED BY BECCO CHEMICAL DIVISION Food Machinery and Chemical Corporation, New York 17, N.Y.

Paper prefers Peroxide...

PAPER MAKERS are constantly seeking new and better ways to make paper whiter, brighter and stronger. And Becco Hydrogen Peroxide is helping spur progress in papermaking. Here's how we worked with three major pulp manufacturers to increase mill efficiency, improve paper quality, *and* cut costs—through new systems using Becco Hydrogen Peroxide.

A modern cold soda pulping facility is operated by Packaging Corporation of America. In its Filer City, Michigan plant, bleaching of the caustic-impregnated pulp is done in disk refiners using Becco Hydrogen Peroxide. This process provides an economical method of treating hardwoods which would otherwise be too dark for use.

Or consider Continental Can Company's latest project . . . a 350-ton capacity pulp and paperboard mill in Augusta, Georgia. It incorporates Becco's Refiner Bleaching Process in which the cold soda pulp is bleached by metering Becco Hydrogen Peroxide to the chips as they enter the refiners. The pulp brightness is increased about 20 GE points.

At the Keyes Fibre Company, Shawmut mill, Becco engineers spent several years developing the advantages and cost savings possible through installation of a new simple single-stage high density Hydrogen Peroxide bleaching system. Adaptability of high consistency bleaching to Keyes' "crumb" method of handling pulp was one of the deciding factors in its selection. Result: Savings on equipment and greater output per unit of space.

Can your pulp use a little assistance from Hydrogen Peroxide? Becco will be glad to provide you with technical data through a survey and estimate of your needs. Write to us at Dept. PTJ-61-9.

No Fish Story Here!

MEN are natural exaggerators when they describe the results of their fishing trips. Let them catch a minnow, and they bring home a whale! Becco, on the other hand, bends over backwards to assure *accuracy* in the delivery of specified quantities of hydrogen peroxide to its customers.

Thoroughly cleaned and carefully inspected aluminum drums are placed singly on Howe or Toledo scales; the reading is set at zero. The drums are filled with filtered hydrogen peroxide until the scale shows the labelled shipping weight. Carboys are handled similarly. These scales are inspected monthly by representatives of the scale company to maintain accuracy.

At our Buffalo plant, a Howe Track Scale and Type Registering Weighbeam is used for weighing tank cars and tank trucks. In the case of a tank car, the vehicle is placed on the scale, weighed, and a record is made of the tare weight. Filtered hydrogen peroxide is pumped into the car until it is filled to the base of the dome. It is then inspected, since the load, if not filled to the exact height, can cause the car to oscillate dangerously when it is in motion. The car is sealed and weighed. The difference between the two readings is the weight of hydrogen peroxide in the tank car. Finally, Becco's accounting department and the railroad receive copies of the printed records. The scales used are inspected and tested four times a year, and no inaccuracies have ever been reported.

The weighing of tank trucks is handled with similar care to ensure accurate delivery, and a weight certificate is furnished to each customer.

So, the fishermen have their stories, and we have ours—and ne'er the twain shall meet!

MORE than a third of a century of experience shows! Ever since it was founded 36 years ago, Becco has devoted its time and energy to the manufacture of hydrogen peroxide and to research in its application. Today, Becco provides industry with 10 additional peroxygen chemicals based on electrolytically-produced hydrogen peroxide.

Becco serves many industries—textile, paper, plasticizers, cosmetics, metal finishing, and is even doing its share in the fields of missile guidance and propulsion. The broadened use of peroxygen chemicals owes much of its present state to Becco's Research and Development staff which continuously studies customers' needs in an effort to keep pace with today's—and tomorrow's—world.

The technical "know-how" of our chemists, engineers, and technical fieldmen is available to you. Their experience has been condensed in a series of technical bulletins. A few are listed at right. If you find any of interest, just drop us a line on your letterhead and ask for the ones you want by number. We'll be happy to oblige.

AVAILABLE TECHNICAL BULLETINS

Product Descriptions

1. ACTIVE OXYGEN CHEMICALS
2. HYDROGEN PEROXIDE
3. HIGHLY CONCENTRATED H_2O_2
4. PERACETIC ACID 40%
6. SODIUM CARBONATE PEROXIDE
7. ALKALINE EARTH METAL PEROXIDES
8. SODIUM PYROPHOSPHATE PEROXIDE
10. UREA PEROXIDE
11. POTASSIUM PERSULFATE
41. BECCO H_2O_2 35% HP
42. BECCO H_2O_2 35% FORMULA D
45. SODIUM PERBORATE
46. CONCENTRATED H_2O_2
49. AMMONIUM PERSULFATE
70. BECCO HYDROGEN PEROXIDE 98%

Properties, Reactions, etc.

24. ANALYSIS OF ALIPHATIC PERACIDS
34. USES OF PERSULFATES A BIBLIOGRAPHY—PART I
40. EQUIPMENT FOR USE WITH HIGH-STRENGTH HYDROGEN PEROXIDE
55. STABILITY OF PURE HYDROGEN PEROXIDE
59. THE ANALYSIS OF H_2O_2 SOLUTIONS
62. HYDROGEN PEROXIDE VAPOR
68. USES OF PERSULFATES A BIBLIOGRAPHY—PART II
87. THE BEHAVIOR OF THE GLASS ELECTRODE IN HYDROGEN PEROXIDE SOLUTIONS
93. ANHYDROUS HYDROGEN PEROXIDE AS A PROPELLANT

fmc
FOOD MACHINERY AND CHEMICAL CORPORATION

BECCO Hydrogen Peroxide

Putting Ideas to Work

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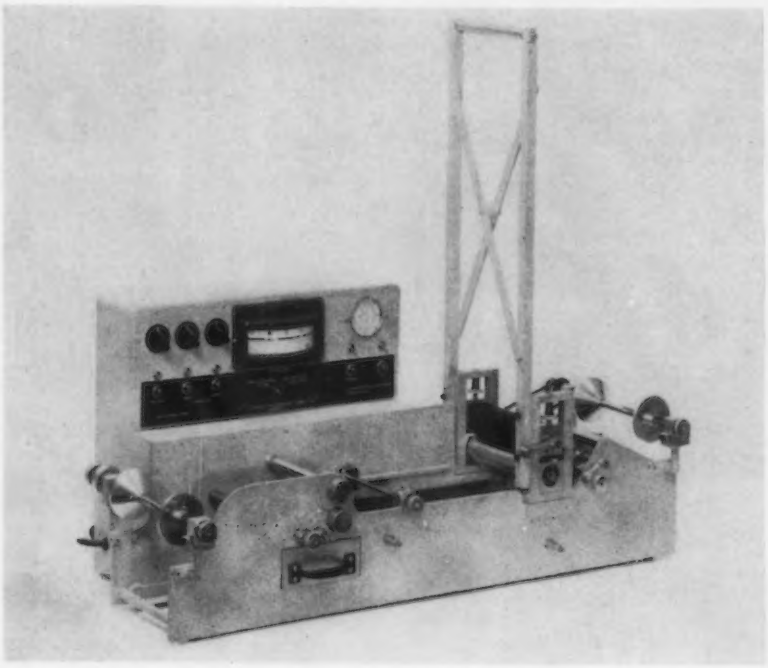
Becco Chemical Division

General Sales Offices:
161 EAST 42nd STREET, NEW YORK 17, N. Y.

NEW EQUIPMENT & SUPPLIES



Laboratory Coater Dip Coats Both Sides

The T-Line Lab Coater applies coatings to paper, controlling the temperature of the melt, the temperature of the doctor rods and the speed and tension of the paper web. It is approximately 48 inches long x 24 inches high x 17 inches wide and weighs approximately 175 pounds.

Coatings can be applied to both sides of the paper by the dip method and cooled by immersion into a cooling tank or by passing over an air drying roll. Available modifications permit the paper to be coated on either one or two sides, controlling the weight of the coating by doctor blades on the applicator roll and heated wire wound doctor rods. Other modifications permit chilling the web by passing it over a cooling roll.

The cast aluminum dip tank and doctor rods can be heated to 400°F. The temperatures are controlled by a thermostat and autotransformer and measured by a thermocouple. The dip tank is removable permitting several interchangeable tanks to be used. The cooling roll, of polished chrome, runs at the same speed as the paper.

A special tension measuring device allows the tension of the paper web to be duplicated accurately. The T-Line Coater takes rolls of paper up to 6 inches in width and 9½ inches in diameter. Slitting knives permit cutting the paper web into strips as narrow as one half inch. Talboys Instrument Corp., 13 Ackerman Avenue, Emerson, N. J.

High-Speed Weight Indication For Load Cell Scales

High-speed electronic dial indication for load cell scales is announced by Toledo Scale, Division of Toledo Scale Corp. A weight reading may be taken in less that 2½ seconds from the time a load is positioned on the weigh platform.

This fast weight indication is accomplished with a automatic two-speed indicator drive. The unit combines the separate advantages of slow or fast indicator travel. The fast speed of the drive unit moves the indicator to within a few graduations of the actual weight. At this point, the drive automatically drops to a slower speed which continues to move the indicator the remaining distance to the actual weight smoothly and without interruption. Thus, both the disadvantage of high-speed indicator "jitters" and the lack of speed are automatically eliminated.

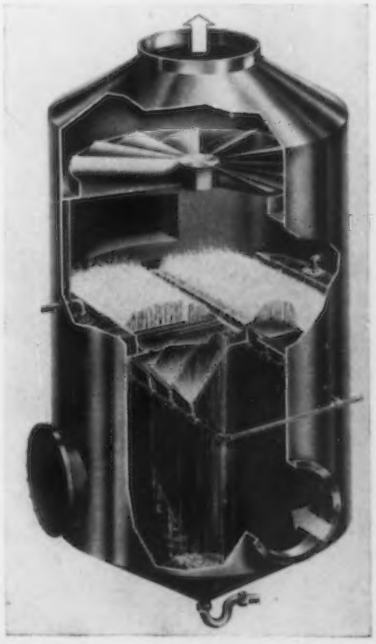
The high-speed electronic dial also tends to eliminate the effect of excessive vibrations around the scale, causing indicator oscillation at the actual weight, the company said. This unit, which does not alter the exterior appearance of the dials, is available in capacities in which Toledo dial scales are built. Toledo Scale, Division of Toledo Scale Corp., Toledo 12, Ohio.

Gas Scrubber Uses Impingement Plate Principle

The W. W. Sly Manufacturing Co. announces its line of impingement-plate-type scrubbers for wet cleaning, absorption or cooling of process gases.

The "Impinjet" Gas Scrubber is said to provide a high efficiency scrubbing action with low operating and maintenance costs. Both single and multiple impingement plate units are available. Scrubbing is accomplished by the turbulent interaction of gas and liquid, as effected by the stainless steel impingement baffle plate.

The single-stage scrubber handles dust loadings at inlet of up to 100 grains per cubic foot. It can remove suspended materials in a gas stream that range from sub-micron fumes to dust particles in the larger micron



sizes, with a reported efficiency in excess of 99 per cent on many types of dust.

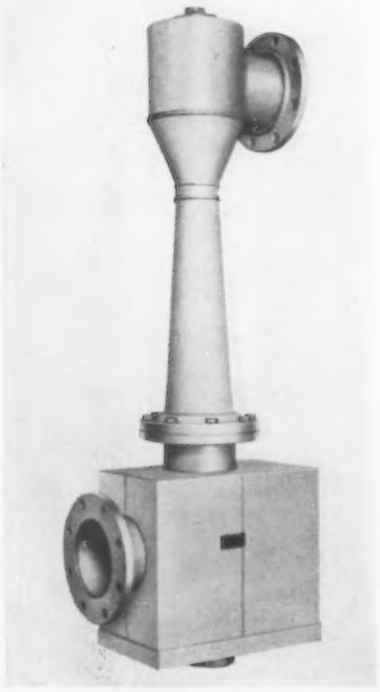
Impinjet Scrubber design utilizes the principles basic to the impingement plate scrubber. Major parts are the shell, the gas inlet, one or more impingement baffle plate stages, the mist eliminator, and the clean gas outlet. Pressure drop and resulting power requirements are said to be low.

Liquid consumption is only one to three gallons per 1,000 c.f.m. at 20-40 p.s.i.g. A single-stage unit can have a pressure drop as low as 2½ inches. Additional plates. can be added without increasing liquid consumption to increase efficiency.

There are no moving parts in the scrubber. Less space is required for installation than other types, and the units can be furnished with round shells or rectangular casings. The Impinjet Scrubber can be used for wet dust collection from a large number of applications including kilns, driers, furnaces. The W. W. Sly Manufacturing Co., 4700 Train Avenue, Cleveland 1, Ohio.

Ejector Gas Scrubber Offers Low Liquid Carryover

An ejector-venturi gas scrubber-separator designated the "Fig. 4014" has been announced by Schutte and Koerting Co. This unit, a combination of the familiar SK Liquid Jet Gas Scrubber with a separator of unique design, is said to provide higher efficiency and gives less liquid carryover.



In the gas scrubber, water or other liquid under pressure, enters the scrubber through a spray nozzle. The velocity of the liquid spray creates a draft in the chamber of the scrubber and causes gases to be drawn into the chamber and the venturi, where intimate contact and mixing of liquid with gases occur. Entrained gas particles and liquid discharge into the separator and clean air issues to atmosphere.

The separator, separates non-condensable gas from liquid and is reported to reduce liquid carryover as much as 98 per cent over gravity-type separators. Service tests have shown a final moisture content at the separator outlet at 0.00002 gal. per 100 c.f.m.

Any stocked gas scrubber unit, in cast iron, fabricated steel, stoneware, Haveg, polyvinyl chloride, can be used with this separator to provide a suitable system. Sizes can range from 3 inches (suction and discharge connections) through 12 inches and even higher on special order.

The configuration of the separator is such that it can be fabricated from almost any suitable material. Small in dimensions, a 3 inch size unit measures 12 inches in length x 4⅜ inches in width x 9 11/16 inches in height, for example.

Both the scrubber and separator can be supplied individually from the Schutte and Koerting Co., Cornwells Heights, Bucks County, Pa.

AIR-OPERATED GRIPS for the Elmendorf tearing tester are reported to enable an operator to test twice as many samples in less time with greatly reduced operator fatigue. Samples can be inserted and removed in one operation without turning any screws. Air-Operated Grips using air pressures as low as 15 pounds assure uniform clamping pressure on the sample at all times, and can be installed on existing Elmendorf testers. Thwing-Albert Instrument Co., Penn Street & Pulaski Avenue, Phila. 44, Penn.

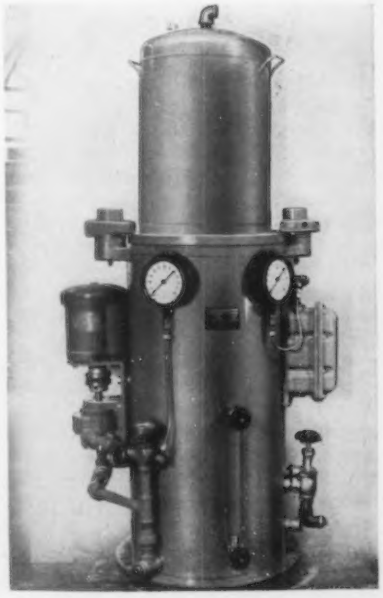
Removes Contaminants from Lubricating Oil Systems

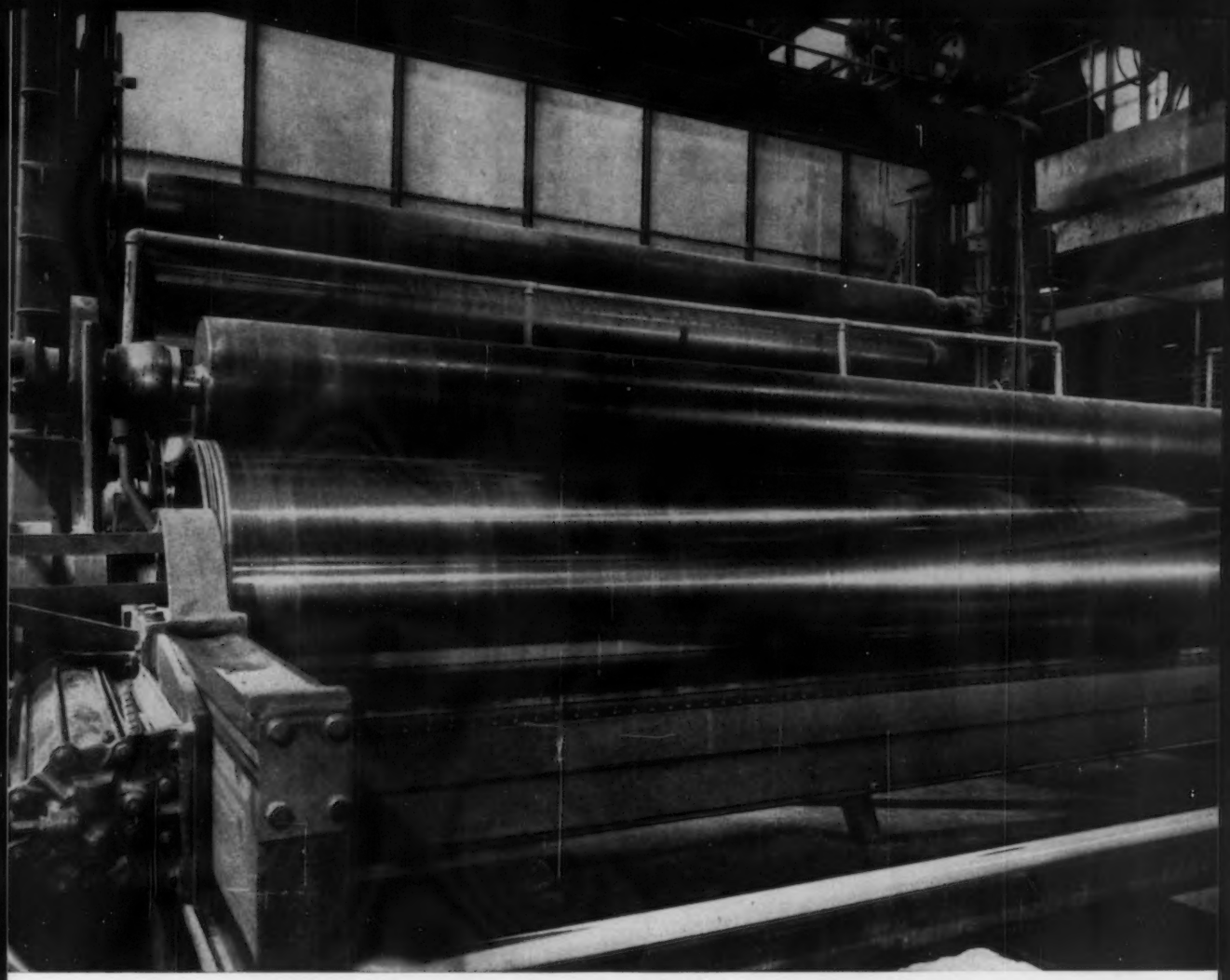
Capable of handling all lubricating oil, from the lightest to the heaviest is a Lube Oil Clarifier-Coalescer available from Marine Moisture Control Co., Inc., 39 Redfern Avenue, Inwood 96, L.I., N.Y. Fow rates are variable.

Particular application of this unit includes clarification and removal of water from oil in sumps of automatically lubricated machinery. As used lube oil, contaminated with water, sludge and solids, is pumped through the unit, the oil passes through clarifying coalescer cartridges. All solid particles over 1 micron in size are removed.

The fine water droplets in suspension are coalesced into larger droplets which descend to the bottom of the tank for drain-off. Hydrophobic wire mesh screens remove all the remaining suspended water.

Filter units are replaced when indicating devices show excessive dif-





Unscheduled downtime can cost the average paper mill up to $4,000 an hour—or $60 a minute.

How to turn a $60-a-minute loss into an 8.8% profit

The answer? Install a Texaco "Stop Loss" Program. It can keep your machines and equipment properly lubricated at all times. As a result, they run better. Bearings and other parts last longer. Your paper machine runs at top capacity—with minimum production losses.

Other "Stop Loss" benefits include: reduced lubricant inventories, and purchasing costs. All told, this Program can cut your overall maintenance costs as much as 10%. These savings, in turn, can increase your net profits as much as 8.8%.*

How a "Stop Loss" Program works. Basically, a "Stop Loss" Program is concerned with modernizing and controlling lubrication practices—from purchasing right through actual application.

Professional Texaco lubrication engineers help specify the right lubricant and lubrication interval for every piece of equipment—from woodyard to machine shop. Particular attention is given to such paper mill problems as wet and dry end lubrication and water contamination. Lubrication responsibility is delegated . . . a fool-proof system of lubrication control is set up.

For full details on how a "Stop Loss" Program can fit into your operation and earn dividends for you, write:

Texaco Inc., 135 East 42nd St., N. Y. 17, N. Y. Dept. PT-40

*The U. S. Department of Commerce estimates that a paper mill doing a $10,000,000 yearly business will spend about $650,000 for maintenance. A 10% reduction in maintenance costs would amount to $65,000. Assume that profits average 7.34%—or $734,000. By adding the 10% maintenance saving, profits now total $799,000 . . . an 8.8% increase.

Tune In: Texaco Huntley-Brinkley Report, Mon. Through Fri.-NBC-TV

TEXACO

Throughout the United States

Canada • Latin America • West Africa

LUBRICATION IS A MAJOR FACTOR IN COST CONTROL

ferential pressure. The average life under factory conditions should be about two years. The Clarifier-Coalescer is delivered with pump, gauges for housing and line pressures, thermometer for oil inlet temperature, water level indicator and all necessary electrical controls.

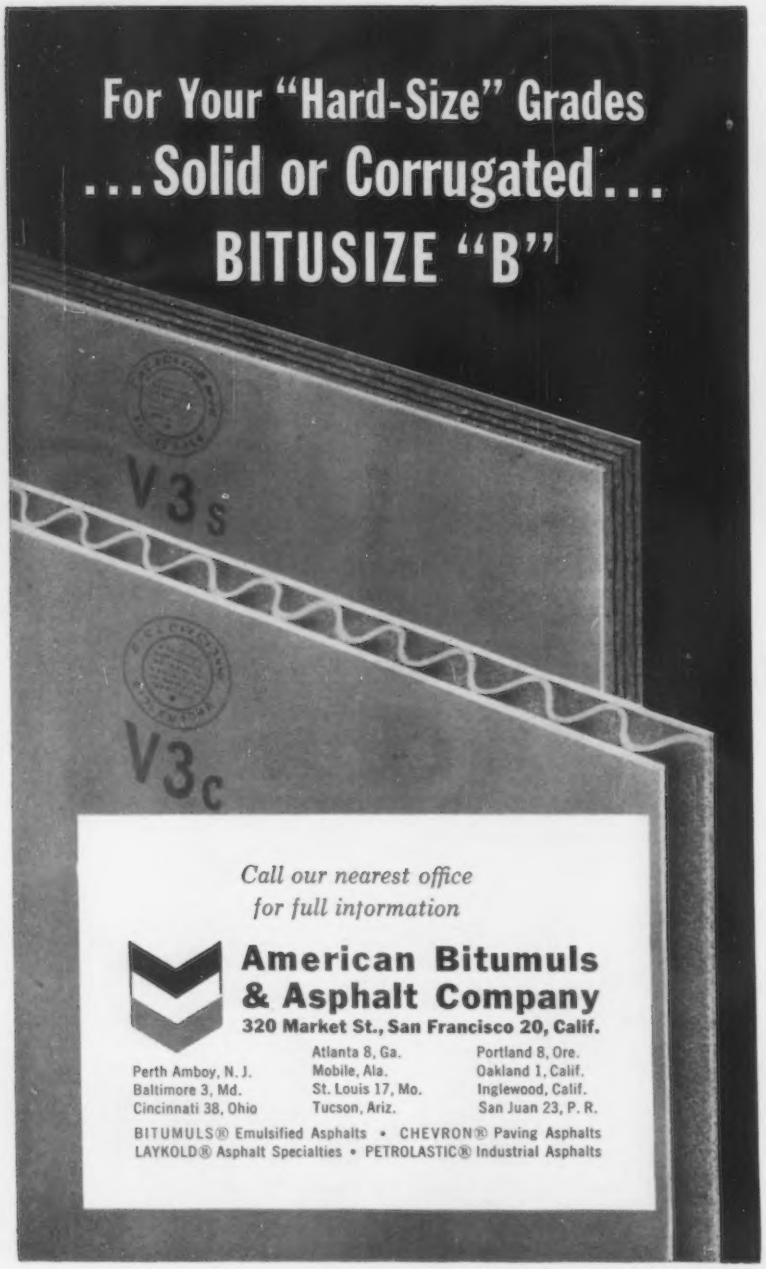
Dispersant for Pitch, Pigments And Fillers in Improved Form

Commercial availability of an improved dispersing agent for use in paper production was recently announced by Rohm & Haas Co., Philadelphia chemicals manufacturer. This product, known as Tamol SN, is described chemically as the neutral salt of a complex, condensed organic acid. It is an improved grade of Tamol N, a dispersing agent which has been in use for some time.

Tamol SN is supplied as a light tan fine particle powder. Because of its finely divided form, Tamol SN is said to go into solution quite rapidly, yet it has been found non-dusting in plant application.

Tamol SN promotes dispersion and wetting of solids without causing frothing or foaming in milling, grinding and mixing operations. Effective dispersant action in both acidic and basic solutions, as well as good stability toward mineral acids and bases, is also reported in the improved product.

A particularly suitable use for Tamol SN is in the dispersion of natural pitch in unbleached and pulp. It has also found application as an economical dispersing agent for pigments and fillers where it is reported effective in concentrations ranging from 1 to 10 per cent of the weight of the pigment. In yet another application Tamol SN serves as a conditioning agent in a patented process of tall oil separation, according to the manufacturer, Rohm & Haas Co., Resinous Products Division, Washington Square, Philadelphia 5, Pa.



Letter to the Editor

EDITOR, PAPER TRADE JOURNAL:

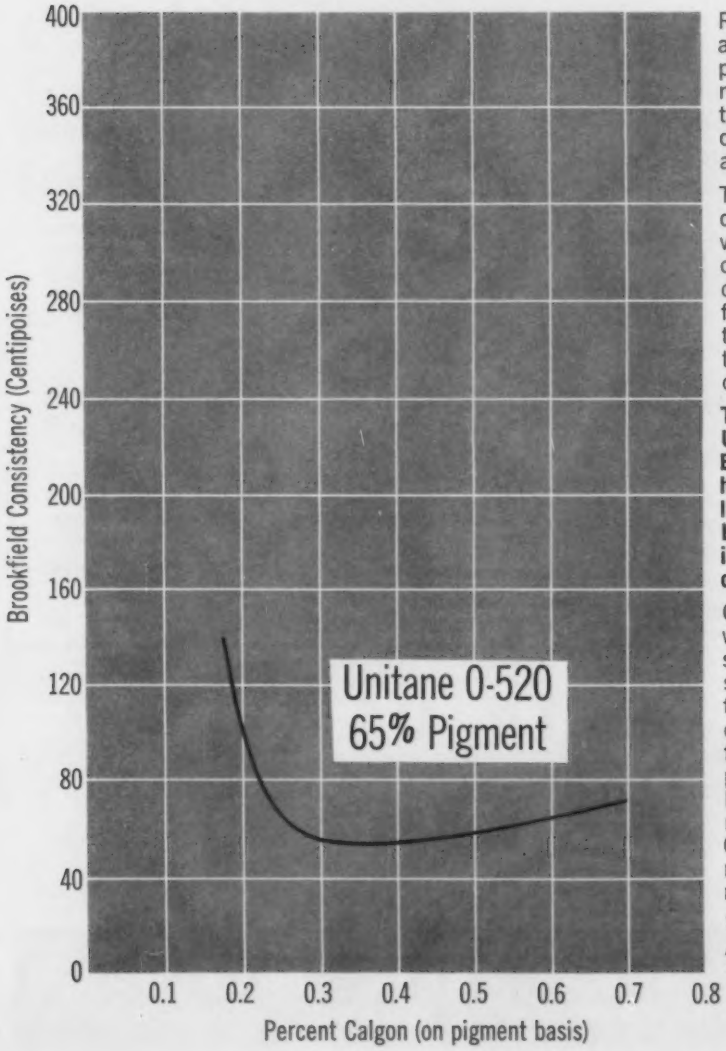
I am sure that you have had many comments on John W. Saunders' article in your March 27 issue regarding "Excess Capacity and Higher Costs Squeeze Paper Industry Profits." His theme — Everything went up but profits—was notably demonstrated by the extensive list of companies and their actual sales and earnings. However, you will find that Champion's record, as listed, is in error.

As shown in the enclosed annual report, dollar sales for our fiscal ending March 1960 were $195,050,000 —an *increase* of 16 per cent over 1959. Earnings were $9,701,000, an *increase* of 26 per cent from fiscal 1959. Before the special items in 1960's earnings, a 22 per cent improvement was still effected. Apparently, your Monroe Calculators switched the 1959 chickens and the 1960 eggs.

I realize these figures argue with Mr. Saunders' chosen theme. During fiscal 1960, Champion added more than 100,000 tons to her productive capacity, upped her sales *and* increased her profits. Fiscal ending March 31, 1961, admittedly won't be so favorable profitwise, but I doubt that we will be at the "bottom of the list" in sales performance—the position Champion rated in your PAPER TRADE JOURNAL article.

Fritzi Schneider
Statistician
Champion Paper and Fibre Co.
Hamilton, Ohio

smoother, more economical paper coatings assured with new Unitane® 0-520



Recognizing the trend toward smoother and more economical paper coatings employing relatively mild dispersion techniques, Cyanamid has produced a new titanium dioxide pigment, Unitane 0-520 designed especially to meet the most exacting requirements of the paper coater.

The curve illustrates the low dispersant demand and low viscosity of coatings made with Unitane 0-520. The very slight increase in viscosity with increasing amounts of dispersant gives the coating formulator flexibility of formulation. It enables him to control deflocculation and to sequester the polyvalent ions from hard water, calcium carbonate and other fillers.

These desirable features are found in Unitane 0-520:
Easy to disperse — excellent response to high speed equipment • Low consistency — low water demand • High pigment loading • Low abrasion factor • Extremely low residue (325 screen) — promotes smoother coatings

Comparisons with Unitane 0-110, a type well-known in the paper industry, have shown that the new Unitane 0-520 has the same good opacity in all coating applications. A comprehensive report of the tests on Unitane 0-520 and the currently offered paper coatings types has been prepared and is available from your Cyanamid Pigments representative. Why not call him now and let him show you how Unitane 0-520 can give you smoother, more economical coatings. A generous sample is ready for your tests. *Whiter and Brighter with Unitane*

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AMERICAN CYANAMID COMPANY PIGMENTS DIVISION
30 ROCKEFELLER PLAZA, NEW YORK 20, NEW YORK

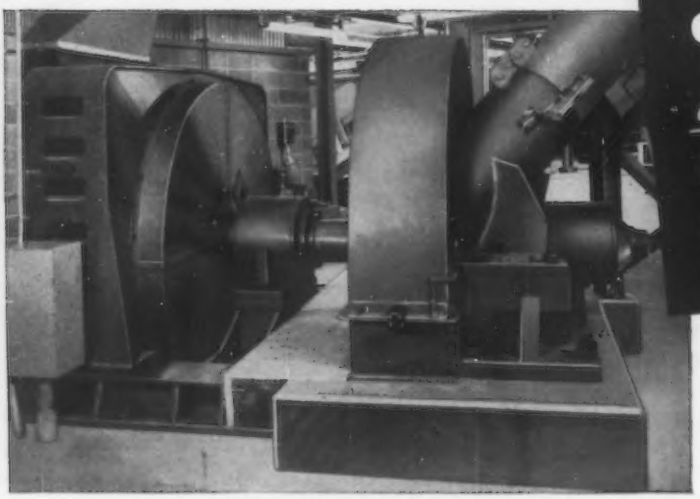
AMERICAN AND ENGLISH CLAYS

FOR ALL PAPER MAKING PURPOSES

ANGLO-AMERICAN CLAYS CORP.

(Formerly: English China Clays Sales Corporation)

6 East 45th Street, New York 17, N. Y.



Carthage Standard Chipper Operating at
HAMMERMILL PAPER CO., ERIE, PA.
Engineered and Erected by
The Rust Engineering Co., Pittsburgh, Pa.

CARTHAGE *Multi-Knife* CHIPPERS

Stabilize Logs in Spout for Uniform, Clean-Cut Chips

With at least two knives cutting at all times, the log is held steady in the spout. Consequently the chips are clean-cut and uniform in length. Log stability, resulting from close spacing of knives, is achieved by three important Carthage design features:

1 Number of knives.
2 Location of knives close to hub.
3 Location of spout close to the shaft so that chipping is performed near center of disc.

Extremely heavy construction combined with hard surfacing at points of wear result in long service life and low maintenance costs.

CARTHAGE MACHINE COMPANY
CARTHAGE, NEW YORK

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Another Plant To Serve You

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1500 N. Hooker St. MO-4-5700 Chicago 22, Ill.

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POTDEVIN
"Baler 85R"
BAG MACHINE

Illustrated is "Baler 85R" with 2 roll stands for duplex S.O.S. baler bags.

Makes baler shipping containers to package 2, 5 and 10 pound sacks. However, the "Baler 85R" is a versatile machine and can produce a wide range of large single wall, duplex and triplex self-opening-square and satchel-bottom specialty bags from approximately 8" x 4½" x 16" up to 12" x 8" x 33".

Write for further details

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POTDEVIN MACHINE CO.
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Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

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A Valuable Textbook for the Paper Industry

Embracing the Complete Lectures as given at the University of Maine.

Three hundred and seventy-three pages and an additional 4-page colored insert of up-to-date material covering a broad field in both pulp and paper making and including many fine illustrations and diagrams.

For students expecting to enter the industry who wish to increase their knowledge and improve their positions, this textbook offers a complete education in pulp and paper manufacture.

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SELECT-A-FLOW MANIFOLD

Fabri Select-A-Flow now provides the paper and pulp industry with a unique flow routing system which cuts operating costs, reduces stock contamination and simplifies route selection.

With Select-A-Flow, route changes which formerly took several hours of maintenance personnel time, now are made in a few minutes by operating personnel . . . machine "down time" is reduced to a bare minimum.

The Select-A-Flow system leaves no stock plugs in the line, and is essentially self flushing. Because of this feature, contamination is virtually nil compared to old-style manifold systems. This makes it ideal for frequent color changes.

Route selection is made easier by the Select-A-Flow system. Stock lines are simply cross connected to each other with Fabri Swivel Joints, which have no interior obstructions, and Fabri Quick Disconnects, which give a flange tight seal with the locking of a lever.

For further information, write or call

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PAPER TRADE JOURNAL

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Classified advertising space may also be purchased at $8.00 per single column inch. All classified advertisements are payable in advance.

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Address replies to advertisements appearing under Box Number in care of PAPER TRADE JOURNAL, 49 West 45th Street, New York 19, N. Y.

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$5,000 to $50,000

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Finding and landing THE ONE BEST JOB requires sound analysis, careful planning, proper contacts and skillful negotiation.

Paper men ourselves, and the only recognized professional specialists in the world in our particular field, we assist responsible paper men to accelerate their careers by uncovering and developing THE SPECIFIC SITUATION that most exactly fits the needs of each individual we serve.

If you seek to better yourself, and your performance to date entitles you to our endorsement, we can and will help you. Contact us in absolute confidence for information regarding procedure.

GEO. M. SUNDAY & ASSO.

PERSONNEL CONSULTANTS TO THE PULP, PAPER & ALLIED INDUSTRIES

6 East Monroe, Chicago ANdover 3-1970

TF

MECHANICAL ENGINEER FOR PAPER MACHINE DEVELOPMENT PROGRAM

We need a man with at least 4-6 years of design and operating experience in news kraft or publication running over 1600 f.p.m. Pilot plant developments have reached the full scale field trial level and operating and installation experience is needed. Opportunities also exist for additional design and development work. Eastern location, top facilities. Salary open. Please send a detailed resume to Box #61-75 care Paper Trade Journal.

M-15

PAPER MILL NIGHT SUPERVISOR

Progressive Pulp and Paper Mill is seeking a man to rotate 4-12 and 12-8. Excellent opportunity for young tour foreman to advance himself. Technical background desired. Should have experience in fine paper grades. Scenic mid-Atlantic location.

Send full details and salary required to Box 61-100, care Paper Trade Journal.

M-8

Help Wanted

ELECTRICAL MAINTENANCE SUPERVISOR

Immediate opening for graduate Electrical Engineer with pulp and paper mill maintenance experience. Bleached sulphate board mill, located in the South. Salary open, depending upon qualifications. All replies confidential. Send complete resume to Box 61-89, Paper Trade Journal, 49 West 45th Street, New York 36, New York.

M-22

PAPER MACHINE SUPERINTENDENT

Excellent opportunity for qualified applicant with practical paper making experience in Fine Papers—Bond, Ledger, Offset, Mimeo, etc. High speed machines. Must have strong organizational and leadership ability. Salary open.

Mill located about ten miles from Center Philadelphia in Montgomery County, Pennsylvania, in an area with wide choice of desirable living conditions.

Send resume including educational and past work history to:

Mr. Paul R. Dugan,
Personnel Director
Hamilton Paper Company
Miquon, Pennsylvania

M-8

DYESTUFF SALES REPRESENTATIVE

If you are experienced in the sale of dyes and organic pigments to the paper industry, we want to talk with you about a position on our sales staff.

Requirements are: Minimum of 3 years experience in sales of paper colors plus working knowledge of application methods. Prior mill or supplier technical experience would be a plus value.

We offer: Salary commensurate with experience, plus incentive and excellent benefit program.

If you qualify, call or write T. F. O'Brien, Manager, Paper Dept.

SANDOZ, INC.

61-63 Van Dam Street, New York 13, N.Y.
AL 5-1700

M-15

FIRST CLASS MACHINE TENDER

for Yankee Tissue Machine. Very attractive opportunity for up and coming man, room for advancement. Mill is located in desirable living area. Reply to Box No. 61-99 care Paper Trade Journal.

M-22

Help Wanted

Long established consulting engineering firm of excellent reputation needs experienced paper mill engineer. Should have mechanical engineering background plus working experience in paper mills. Duties would include engineering for paper mill expansion and modernization programs plus consultation on plant operations. Exceptional location serving five state area of Michigan, Ohio, Indiana, Illinois and Wisconsin. Resume and photograph should be sent to Box 61-97 care Paper Trade Journal.

M-8

CHEMIST OR CH. E.

Old established Metropolitan New York firm has immediate opening for graduate with minimum 2 years industrial experience. Extensive background in paper converting. Experience with inks, waxes and paper coating desirable. Send resume and salary requirements to Box 61-101, care Paper Trade Journal.

M-15

WET END FOREMAN

INSULATING BOARD PLANT

Prefer Fourdrinier Experience. State Salary Requirements and Experience in First Letter, Address Box 61-82 care of Paper Trade Journal.

M-15

WANTED—Boss Machine Tender for Pacific Coast Mill making newsprint and specialties. Address Box 61-80 care Paper Trade Journal.

M-8

Situations Wanted

General or Paper Mill Superintendent

40 years' experience, 35 in supervision, 25 as mill supt. on printing bond, board, and converting, also printing press operations. Retired early but wish to work another five years either operating, training, or consulting; foreign or domestic. Available at once short or long periods. Write Box 61-76 care Paper Trade Journal.

M-8

BEATERS

2—1500 lb. rag beaters, Valley Iron, bandless rolls, 54″ x 48″, cast iron tubs

CALENDER STACKS

1—3 roll 84″ face
1—4 roll 72″ face (Extra heavy duty)
1—5 roll 86″ face

CHIPPERS

1—96″ Murray 4 knife Chipper—anti-friction bearings
1—84″ 10 knife Carthage Chipper, Anti-friction bearings, with motor

COATERS

1—27″ High Solid Coater
1—42″ Chapman Extrusion Type Coater

CRUSHER & HAMMERMILL

1—Murray Chip Crusher
1—Williams Hammermill
1—Jeffrey Shredder

CYLINDER MOLDS

5—36″ diameter x 75″ face, with couch rolls
1—36″ diameter x 82″ face
1—42″ diameter x 96″ face
2—42″ diameter x 106″ face
2—60″ diameter x 170″ face

DRIVES

1—Jones 21 H.P., ratio 10 to 1 (enclosed angle drive)
1—#4 Reeves Drive
2—Falk Drives, 20 H.P. & 160 H.P.

DRYERS

1—16″ diameter x 54″ face (steel)
1—28″ diameter x 84″ face
1—28″ diameter x 48″ face
2—Calender Dryers, bronze, 30″ x 128″ with frames, gears & necessary rolls to make up the unit.
1—36″ diameter x 44″ face
5—36″ diameter x 76″ face
23—36″ diameter x 84″ face
14—48″ diameter x 48″ face with bearings
2—48″ diameter x 52″ face with frames, gears, bearings
2—48″ x 60″ face frames, gears & bearings
1—48″ diameter x 108″ face.
6—48″ diameter x 130″ face
1—60″ diameter x 92″ face, anti-friction bearings

EMBOSSING CALENDERS

1—43″ 3-roll Embossing Calender
1—48″ 2-roll Meadows Embossing Calender
1—51½″ 3-roll Smoothing Calender
1—57″ 3-roll Embossing Calender
1—62″ 2-roll Embosser
1—90″ 2-roll Smoothing Calender

FILTERS

1—Oliver, 8 ft. x 12 ft., rubber lined, complete
1—Oliver Filter 8 ft. x 8 ft.
1—Dorr-Oliver Filter, 3 ft. dia. x 6 ft. face, stainless steel construction, with pump

FLAT SCREENS

1—12 Plate "Packer"
4—14 Plate IMPCO, bronze vats

JORDANS

2—#1 Jones High Speed Jordans, Stainless steel tackle, A.F. Bearings, motors.
1—#1 Jones High Speed Jordan
1—Jones Standard, new spare tackle, with 75 h.p. motor
1—Noble & Wood Monarch, Type D, anti-friction bearings
1—Noble & Wood Mammoth Jr., with spare plug
1—Noble & Wood Baby Jordan, anti-friction bearings, with 20 h.p. motor
1—#6 Miami, anti-friction bearings

KNIFE GRINDER

1—70″ Seybold

LABORATORY EQUIPMENT

1—Washer for 5 lb. Beater
1—24″ Saveall, stainless steel
1—20″ Fourdrinier Wet End & Press Section
1—Noble & Wood Cycle Beater with motor & stand
1—Williams Freeness Tester.
1—Cady Micrometer
7—Mullen Testers, motorized & hand operated
1—2 qt. Auto Clave, Stainless Steel
2—Elmendorf Tear Testers
1—27″ High Solid Coater
1—Noble & Wood Baby Jordan, anti-friction bearings, with 20 h.p. motor
2—Emerson, Jr., No. 1 Jordans, anti-friction bearings
1—24″ diameter x 24″ face Stainless steel Cooling Drum
1—10″ diameter x 10″ face Valley Iron Works Flat Screen
1—8″ diameter x 1′ face Elmes Hydraulic Press

MISCELLANEOUS

1—Shartle Hydrafuge, 1000 g.p.m. (with motor)

MOTORS

4—25 h.p. Westinghouse, totally enclosed, ball bearing, 705 r.p.m.

PACKAGING MACHINERY

1—Lynch Morpac Packaging Machine

PRESSAFINER

1—7″ Pressafiner, stainless steel construction, New 1955, with new spare motor

PRESS ROLLS

2—Chilled iron, chrome plated 9″ x 72″
1—Chilled iron, chrome plated 10″ x 74″

PULPERS

1—#1 Jones Pulp Master

PUMPS

1—Economy Fan Pump 6000 g.p.m. 20′ head, 50 h.p. motor

REELS

1—72″ Downingtown Reel, 2 bowl
1—84″ 3 bowl revolving reel
1—86″ 2 bowl reel
1—100″ Rice Barton 2 bowl reel, heavy duty
1—116″ Downingtown, 2 bowl, anti-friction bearings
1—123″ 3 bowl Revolving Reel
1—130″ Pope Reel (Rice Barton)
1—134″ 2 drum

REFINERS

1—Rice Barton Dynofiner, details on request
1—12″ Wiener Refiner, with 200 h.p. motor
2—36″ Bauer double disc #185E Refiners, each with two 100 h.p. motors
1—#4 Dilts Hydrafiner, anti friction bearings

ROLL HEADER

1—Valley Iron Roll Heading Machine, complete, for paper rolls 100″ long x 42″ diameter

ROLLS

Felt, Table, Press, Breast, Couch, etc. Various sizes and types. (Bronze, Rubber, Iron, etc.)

ROTARY SCREENS

4—#2A Bird Rotary Screens, copper vats
1—#2A—50 Bird, copper vat
2—APMEW Rotary Pulp Screens

SAVEALLS

1—#6 Bird Saveall.
1—24″ Continuous Saveall, stainless steel
1—LaMort 48″ diameter x 82″ face cylinder mold
2—Savealls, cylinder molds, 42″ diameter x 106″ face. brand new vats
1—Saveall, Rice Barton, cast iron vat, cylinder mold 48″ diameter x 128″ face, complete with 18″ diameter couch roll, all in very good condition

SHEETERS

1—160″ Moore & White, simplex, complete

SHREDDERS

1—16″ "Swift" Paper Shredder
2—Taylor Stiles Rag Cutters

SLITTERS & WINDERS

1—26″ Cameron Type 26-2A, with constant tension & electric eye.
4—42″ Cameron Type 6
1—42″ Cameron Type 9
1—42″ Cameron Type 26-2A
1—42″ Cameron Type 40-2
1—50″ Cameron Type 6
1—52″ Cameron Type 9.
1—86″ Two Drum Moore & White 50″ diameter rewind
1—96″ 4 drum Moore & White winder
1—64″ Waldron, Shear cut

SLITTING DEVICE

84″ Quick change slitting device shear cut, complete

SUCTION COUCH SHELL

1—Downingtown suction couch shell only. 127½″ face 26″ diameter

SUCTION COUCH ROLL

1—Beloit 36″ diameter x 246″ face, SKF bearings

SUCTION FELT ROLL

1—Gilbert & Nash 122″ face

SUCTION PRESS ROLL

1—Sandusky 18″ dia. x 138″ face Suction Press Roll

SUPER CALENDER STACK

1—9 Roll 56″

TOILET WINDER

1—72″ Hudson-Sharp (Surface type winder)

TRIMMERS

1—95″ Seybold Trimmer, Model 15ZJ

VACUUM PUMPS

2—#3 Nash Hytors
1—#4 Nash Hytor
1—#7 Nash Hytor, with 75 h.p. synchronous motor
1—H-7 Nash
2—K-5 Nash
2—L-4 Nash
3—L-5 Nash
1—L-6 Nash

VATS

2—Brand new Downingtown Iron End Vats, for 42″ diameter x 112″ face cylinder molds. Will cut down to your size.

VIBRATING SCREENS

1—Hummer Vibrating Screen, Stainless Steel
1—Selectro, 2 Stage, 5 ft. x 10 ft.

WET MACHINES

1—84″ IMPCO Wet Machine

YANKEE DRYERS

1—60″ diameter x 92″ face, anti-friction bearings
1—12 ft. diameter x 181½″ face

Paddy Ross, Pres.

J. J. ROSS COMPANY

377 Frelinghuysen Ave. **Tel.—Bigelow 3-3720** **Newark 12, N. J.**

Situations Wanted

U.S. Pulp / Paper PR Specialist, technically trained, 35, currently on assignment in

EUROPE

seeks new, permanent association with major pulp/paper producer, sales organization or supplying firm to the industry; in

Management, Sales or PR Position

which will utilize his thorough knowledge of European P/P industry, markets and practices—gained through extensive travelling during past year, working with mills and suppliers in most European countries. Ten years of broad experience in U.S. P/P industry, in technical, PR and managerial capacities. Three languages. Proven ability to work independently. Willing to continue to travel widely and be headquartered either in Europe or U.S. Address Box 61, care Paper Trade Journal. M-29

"Technical Executive 22 years experience in Research, Production and Tech. Sales Service in specialty coated papers and adhesives desires challenging position." Box No. 61-88 care of Paper Trade Journal. M-22

MECHANICAL ENGINEER with remarkable experience in project work, design, installation and operation. Fluent in English, Spanish, French and German. Looking for challenging position. Best references. Box No. 61-90 care of Paper Trade Journal. M-22

Sales Representation

COMPLETE REPRESENTATION

With my considerable experience, I am now prepared to set up a warehouse—form a selling organization and distribute in the Metropolitan Area, proven paper products that are unfinished, semi finished or finished.
Will do this on an outright sales basis—consignment, bonded warehouse or on a commission basis. Address Box 61-59 care Paper Trade Journal. M-8

Sales Representation

NEW ZEALAND

A rapidly growing paper, board & pulp producing country, in which it is essential to be represented by

New Zealand *Resident* Agents

If the best results and service are to be obtained in the supply of equipment and all types of consumer supplies to this expanding market.

PULP & PAPER MILLS SUPPLIES AGENCIES LTD.
Graham Street, Auckland, N.Z.
(P.O. Box 2212)

Are the oldest established New Zealand company dealing exclusively with the paper producing industry and making regular calls on all mills.

Are you interested in expanding your sales in

New Zealand ?????

If so, please write to —

MR. B. W. ROBINSON,
C/—THE ERRION COMPANY INC.,
200 CHESTNUT AVENUE,
BOGOTA, NEW JERSEY, U.S.A.

M-8

TISSUE MILL WANTED

Would like to buy or lease facial tissue mill. Will consider partnership with right party. Not less than ten tons per day capacity. Write all details—will be held in strictest confidence.

Box #61-96
c/o Paper Trade Journal

M-15

PARRY DUAL LINER

Double lining attachment for 40" Parry Liner or complete 40" or 50" Parry Liner with double lining attachment.

Penn Card & Paper Company
York & Gaul Streets, Philadelphia 25, Pa.
GA 5-5200 M-8

Wanted

WANTED

1—Rogers wet machine in good condition with double press and sheet take off.

CONTACT PURCHASING DEPARTMENT
THE D. M. BARE PAPER COMPANY
ROARING SPRING, PENNA.

M-15

WANTED TO PURCHASE:

A specialty paper mill is interested in purchasing a converter of paper and board. Converter must have current profitable sales, either direct or through distributors, of $200,000 or more per year. Box 61-98 care paper Trade Journal. M-22

FOR SALE
LOW PRICES

2—86" B. & S. Wet Machines; Bronze and Rubber Press Rolls; A.F. Bearings on Couches and Cylinder Molds. Complete with Gear Drives. Excellent Condition.

RUDERMAN MACHINERY EXCHANGE
Gouverneur, New York
Phone 333-334

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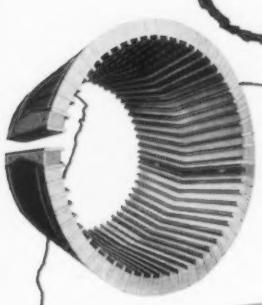

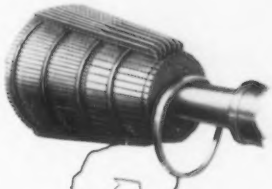

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